

MAINVIEW[®] SRM Allocation EasySMS User Guide and Reference

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 - serial numbers
 - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
 - product error messages
 - messages from the operating system, such as `file system full`
 - messages from related software

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About This Book

This book contains detailed information about MAINVIEW® Storage Resource Manager Allocation EasySMS by BMC Software and is intended for storage administrators.

To use this book, you should be familiar with the following items:

- OS/390 operating system
- job control language (JCL)
- Interactive System Productivity Facility (ISPF)

Throughout this book, references to OS/390 support also include support for MVS and z/OS.

How This Book Is Organized

This book is organized as follows. In addition, an index appears at the end of the book.

Chapter/Appendix	Description
Chapter 1, "What Is EasySMS?"	provides a brief description of the EasySMS product
Chapter 2, "SMSACSTE - Test ACS Routines"	describes test ACS routines.
Chapter 3, "EasyACS Functions"	provides details of EasyACS functions
Chapter 4, "Using the Monitoring and Positioning Facility"	describes the generation of EasySMS reports
Chapter 5, "EasySMS Report Descriptions and Samples"	provides descriptions and samples of EasySMS reports

Related Documentation

BMC Software products are supported by several types of documentation:

- online and printed books
- online Help
- release notes and other notices

In addition to this book and the online Help, you can find useful information in the publications listed in the following table. As “Online and Printed Books” on page xii explains, these publications are available on request from BMC Software.

Category	Document	Description
general	<i>MAINVIEW Products General Information</i>	provides an overview of the MAINVIEW environment and the products that it supports
MAINVIEW common documents	<i>OS/390 and z/OS Installer Guide</i> <i>MAINVIEW Installation Requirements Guide</i> <i>MAINVIEW Common Customization Guide</i> <i>Using MAINVIEW</i> <i>MAINVIEW Administration Guide</i> <i>Implementing Security for MAINVIEW</i>	provide instructions for installing, configuring, using, and administering MAINVIEW
MAINVIEW SRM customization documents	<i>MAINVIEW SRM Customization Guide</i>	provides instructions for configuring and customizing MAINVIEW SRM for OS/390 including EasySMS
core documents	<i>MAINVIEW SRM User Guide and Reference</i>	provides information common to all MAINVIEW SRM products and high-level navigation
	<i>MAINVIEW SRM Reference Summary</i>	provides information about global system parameters, filter and rule list parameters, and functions for all MAINVIEW SRM products
messages	<i>MAINVIEW SRM Messages</i>	provides hardcopy of messages that are also available online
supplemental documents	release notes, flashes, technical bulletins	provides additional information about the product

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- updates to the installation instructions
- last-minute product information

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Conventions

This section provides examples of the conventions used in this book and explains how to read ISPF panel-flow diagrams and syntax statements.

General Conventions

This book uses the following general conventions:

Item	Example
information that you are instructed to type	Type SEARCH DB in the designated field.
specific (standard) keyboard key names	Press Enter .
field names, text on a panel	Type the appropriate entry in the Command field.
directories, file names, Web addresses	The BMC Software home page is at www.bmc.com .
nonspecific key names, option names	Use the HELP function key. KEEPDICTIONARY option
calls, commands, control statements, keywords, parameters, reserved words	Use the SEARCH command to find a particular object. The product generates the SQL TABLE statement next.
code examples, syntax statements, system messages, screen text	//STEPLIB DD The table <i>table_name</i> is not available.
emphasized words, new terms, variables	The instructions that you give to the software are called <i>commands</i> . In this message, the variable <i>file_name</i> represents the file that caused the error.
single-step procedures	»» To enable incremental backups, type y and press Enter at the next prompt.
GUI menu sequence	Choose File => Open .

This book uses the following types of special text:

Note: Notes contain important information that you should consider.

Warning! Warnings alert you to situations that could cause problems, such as loss of data, if you do not follow instructions carefully.

Tip: Tips contain useful information that may improve product performance or that may make procedures easier to follow.

Syntax Statements

Syntax statements appear in Courier. The following example shows a sample syntax statement:

```
COMMAND KEYWORD1 [KEYWORD2|KEYWORD3] KEYWORD4={YES|NO}  
    file_name...
```

The following table explains conventions for syntax statements and provides examples:

Item	Example
Items in italic type represent variables that you must replace with a name or value. Use an underscore for variables with more than one word.	<code>dtbackup <i>control_directory</i></code>
Brackets indicate a group of options. You can choose at least one of the items in the group, but none of them is required. Do not type the brackets when you enter the option. A comma means that you can choose one or more of the listed options. You must use a comma to separate the options if you choose more than one option.	<code>[<i>table_name, column_name, field</i>]</code>
Braces enclose a list of required items. You must enter at least one of the items. Do not type the braces when you enter the item.	<code>{<i>DBD_name table_name</i>}</code>
A vertical bar means that you can choose only one of the listed items. In the example, you would choose either <i>commit</i> or <i>cancel</i> .	<code>{commit cancel}</code>
An ellipsis indicates that you can repeat the previous item or items as many times as necessary.	<code><i>column_name . . .</i></code>

Chapter 1 What Is EasySMS?

MAINVIEW SRM EasySMS is one of the products that make up the MAINVIEW SRM Allocation storage management product group, which also includes MAINVIEW SRM StopX37/II and MAINVIEW SRM EasyPOOL.

The Allocation component provides

- enhancements to OS/390 space management, reducing the incidence of space-related processing problems
- control over data set allocation and enforcement of allocation and naming standards
- tools that aid in the conversion to DFSMS and provide enhancements to the DFSMS environment after implementation

Allocation functions operate at the operating system level to intercept abend conditions or standards violations, thus providing services without any JCL changes.

EasySMS is composed of the EasyACS functions, the SMSACSTE function, and the Monitoring and Positioning Facility:

- The AACS functions provide a simple and flexible method of implementing the four DFSMS automatic class selection (ACS) routines (data class, management class, storage class, and storage group). With the EasyACS functions, ACS classes are assigned with MAINVIEW SRM rules, allowing resource selection on a wide variety of data set characteristics, including the powerful MAINVIEW SRM name masking capability.

-
- The ACS test function (SMSACSTE) enhances the process of testing ACS routines (either the DFSMS ACS exits or the MAINVIEW SRM SMSACSxx routines). SMSACSTE does two things: it displays all ACS variables and, more importantly, allows the DFSMS-managed status of the data set to be turned off.
 - The Monitoring and Positioning Facility provides reports to assist in the preparation for the DFSMS conversion effort. Additionally, control cards and/or JCL may be generated for reported data sets to modify the data set as necessary.

Some of the benefits and uses of EasySMS are

- simplification of ACS implementation and testing
- identification of naming standards violations
- analysis of current data set characteristics, providing possible data classes
- analysis of data set aging, providing possible management classes
- analysis of existing or proposed pooling, showing distribution of data sets
- identification of data sets that will not be supported by DFSMS
- analysis of existing or proposed DFSMS construct assignments
- automated generation of control cards to handle identified problems

EasySMS functions do not operate for DFDSS jobs.

EasySMS includes the DFSMS ACS test function (SMSACSTE) and the EasyACS functions (described in the following chapters).

Chapter 2 SMSACSTE - Test ACS Routines

The SMSACSTE function provides services that enhance the process of testing ACS routines:

- ACS variables are displayed, allowing easier debugging of ACS routines.
- The data set can be removed from DFSMS-management, allowing testing of ACS routines without generating numerous new DFSMS-managed data sets.

Parameter Quick Reference

SET Statement (in member SMRLSTxx)

Parameter	Description
EVENTID=xxxxx	Identifies a user event defined in an SMEVNTxx member
SMSMANAGED=YES/NO	Specifies whether the data set is to remain DFSMS-managed

Usage Notes

SMSACSTE applies only to data sets that are DFSMS-managed. The function displays most ACS variables and also allows the data set to be removed from DFSMS management. SMSACSTE is activated for data sets with a status disposition of NEW or MOD.

SMSACSTE recognizes a DFSMS-managed data set by the assignment of a storage class to the data set. If the data set is not DFSMS-managed, SMSACSTE does not process the data set. No messages are produced, the SMSMANAGED parameter is ignored and the trace facility shows no activity. Regardless of any construct assignments by SMSACSDC, SMSACSMC, or SMSACSSG, the SMSACSTE function does not process a data set unless it has a storage class assigned.

The SMSMANAGED parameter specifies whether or not the data set remains under DFSMS management. SMSMANAGED=NO clears the storage class for the data set, and so forces the data set to be non-DFSMS-managed. SMSMANAGED=YES does not change the storage class; the data set keeps its original storage class assignment and remains DFSMS-managed.

Note: Setting SMSMANAGED to YES does not change a non-DFSMS-managed data set to DFSMS-managed because non-DFSMS-managed data sets are not processed by SMSACSTE.

Due to information that is available from OS/390 at the time this function is invoked, the only MAINVIEW SRM selection parameters that have values are those that correspond to DFSMS ACS variables. These parameters are:

DATACLAS	ENVIR	MGMTCLAS	SMSMANAGED
DD	EXPDT	NQUAL	STEPACCTn
DSN	HLQ	PGM	STORGROUP
DSNn	JOB	RACF	STORCLAS
DSNTYPE	JOBACCTn	RECORG	UNIT
DSORG	LLQ	RETPD	USER
DSTYPE	MAXSIZE	SIZE	VOL
			XMODE

The ACS variables that are displayed by SMSACSTE are listed in the following table.

Variable	Explanation
ACCT_JOB	First five job account fields
ACCT_STEP	First five step account fields
ACSENVIR	ACS routine environment (RECALL, RECOVER, CONVERT, ALLOC, STORE, CHANGED, CTRANS, or other)
APPLIC	Application (if RACF is installed)
DATA_CLASS	Data class
DDN	DDname
DSN	Data set name

Variable	Explanation
DSNTYPE	Data set name type
DSORG	Data set organization (PS, PO, VS, DA)
DSOWNER	Data set owner name (if RACF is installed)
DSTYPE	Data set type (GDS, PERM, TEMP). Note that the MAINVIEW SRM selection parameter DSTYPE uses the value GDG rather than GDS, to be consistent with industry usage.
EXPDT	Expiration date
GROUP	RACF group
JOB	Job name
MANAGEMENT_CLASS	Management class
MAXSIZE	Size of primary extent plus all secondary extents
NQUAL	Number of qualifiers in the data set name
NVOL	Number of volumes
PGM	Program name
RECORD	Record organization (KS, ES, RR, LS)
RETPD	Retention period
SIZE	Size of primary extent or of primary + 1 secondary extent
STORAGE_CLASS	Storage class
STORAGE_GROUP	Storage group
UNIT	Device type generic name
USER	User ID
VOL	Volume serial number
XMODE	Execution mode (BATCH, TSO, STC)

Variables with a blank or null value are not displayed.

SMSACSTE issues message SVM0304I to display ACS variables:

SVM0304I *variable*(*value*)

where *variable* is the name of the ACS variable and *value* is the value of that variable; for example:

SVM0304I JOB(EMPCRMX) DDN(DD2) PGM(IEFBR14)
DSN(EMPCRM.SMSACSTE.TEST) NQUAL(03)

SVM0304I ACCT_JOB1(3500)

SVM0304I SIZE(46KB) MAXSIZE(736KB) XMODE(JOB)

SVM0304I DSNTYPE(NUL) DSTYPE(PERM) DSORG(PS)

SVM0304I USER(EMPCRM) GROUP(BABEMP)

SVM0304I ACSENVIR(ALLOC) UNIT(BABDA)

SVM0304I STORAGE_CLASS(BBSC) STORAGE_GROUP(BBSG)

If SMSMANAGED=NO is specified, message SVM0307I
SMSMANAGED=NO APPLIED is written to indicate that any storage class
has been removed from the data set.

Note that the SMSACSTE function must be specified in the SMFUNCxx
member to be available and must be set active to provide service.

Parameter Explanations

EVENTID=

Purpose: Specifies the identifier assigned to a user event in SMEVNTxx.
This parameter will cause an event to be generated from this
function.

Syntax: EVENTID=xxxxx

where xxxxx is the 5-character string specified on the EVNTID
parameter in SMEVNTxx.

Default: None

SMSMANAGED=

Purpose: Specifies whether the data set is to remain DFSMS-managed.
NO removes the data set from DFSMS control; YES leaves the
data set under DFSMS management.

Syntax: SMSMANAGED=YES/NO

Default: SMSMANAGED=YES

Example

Use SMSACSTE to assist in debugging ACS routines.

SMFUNC04 member

SET	NAME=SMSACSTE ACTIVE=YES	The function is defined and
	MSG=I SMF=I	activated.
	FLST=04 RLST=02	
	DESC='TEST ACS ROUTINES'	

SMFLST04 member

SET	MODE=ACT	Select test data sets.
	INC DSN=SYSPGMR.ACSTEST./	

SMRLST02 member

SET	SMSMANAGED=NO	If the third data set name qualifier
	INC DSN3=NOSMS*	begins with NOSMS, do not allow
		the data set to be
		DFSMS-managed.

SET	SMSMANAGED=YES	If the third data set name qualifier
	INC DSN3=SMS*	begins with DFSMS, let it stay
		DFSMS-managed.

Chapter 3 EasyACS Functions

MAINVIEW SRM storage management services are divided into functions. SMFUNCxx activates MAINVIEW SRM functions and controls message and tracing activity. Functions provide all the runtime services of MAINVIEW SRM. SMFUNCxx points to members SMFLSTxx and SMRLSTxx, which select resources and control the operation of the functions.

Functions are defined in SET statements. You can change parameters

- by editing the member directly
- by using the MAINVIEW SRM function SET commands
- through the Functions option on the Parmlib Members menu of the EZSRM Menu described in the *MAINVIEW SRM User Guide and Reference*.

EasyACS is a group of five functions that is designed to simplify and enhance the DFSMS automatic class selection routines. The EasyACS functions can be used with the four DFSMS ACS routines, or as a complete replacement for them.

Listed below are the functions of EasyACS. They are described in greater detail in the remaining pages of this section.

SMSACSDC - Provide SMS Data Class Constructs	3-2
SMSACSMC - Assign SMS Management Class	3-6
SMSACSSC - Assign SMS Storage Class	3-11
SMSACSSG - Assign SMS Storage Group	3-16
SMSMCREN - Identify Data Set Rename Requiring Management Class Change	3-21

Tip: DFDSS (ADRDSSU) DEFRAG creates a control data set, 'SYS1.DFDSS.DFRAG...', on all volumes being defragmented. This data set is not SMS-manageable. The step should be run including a //PROIGN DD DUMMY, or the data set should be excluded in the FLST for all EasyACS functions.

SMSACSDC - Provide SMS Data Class Constructs

The SMSACSDC function assigns a DFSMS data set to a data class.

A data class defines a list of data set attributes, such as record format, record length, retention period, primary and secondary space allocation quantities, and so on. The data class allows organization and allocation information to be provided by default for all data sets assigned to that class. This simplifies and standardizes data set allocation. Data classes can be assigned explicitly in JCL, or implicitly through an ACS routine.

SMSACSDC allows a data class to be assigned to a data set that does not have a data class and allows a data class assignment already made by JCL or an ACS routine to be overridden.

Parameter Quick Reference

SET Statement (in member SMRLSTxx)

Parameter	Description
DATACLAS=xxxxxxx	specifies the DFSMS data class name to be used
EVENTID=xxxxx	identifies a user event defined in an SMEVNTxx member
REPLACE= <u>YES</u> /NO	specifies whether or not the DATACLAS parameter is applied

Parameter Explanations

DATACLAS=

Purpose: Specifies a valid DFSMS data class name. The SMSACSDC function returns this name as the new data class for the data set.

This is a required parameter, unless REPLACE=NO is specified.

Note: This value is validated against DFSMS data classes at MAINVIEW SRM start-up, when the rule list for SMSACSDC is refreshed, and when the SMFUNCxx member is refreshed. If the DATACLAS value is not a valid DFSMS data class, the system start or refresh fails. (If DFSMS is not present, the value is not validated.)

Syntax: DATACLAS=xxxxxxx

where xxxxxxx is a 0-8 character data class name. A null string can be specified by two apostrophes with no intervening characters (DATACLAS=").

Default: None

EVENTID=

Purpose: Specifies the identifier assigned to a user event in SMEVNTxx. This parameter will cause an event to be generated from this function.

Note: If EVENTID= is used on an FLST SET statement with MODE=INACT, the event will still be issued.

Syntax: EVENTID=xxxxx

where xxxxx is the 5-character string specified on the EVNTID parameter in SMEVNTxx.

Default: None

REPLACE=

Purpose: Specifies whether the data class name set by the SMSACSDC function replaces any previous data class set by the JCL or ACS routine. REPLACE=YES causes the SMSACSDC data class to replace a pre-existing data class, while REPLACE=NO allows a pre-existing data class to be assigned. If there is no data class assigned by the JCL or ACS routine, the REPLACE parameter is ignored and the SMSACSDC value is assigned. This is an optional parameter.

Syntax: REPLACE=YES/NO

Default: REPLACE=YES

Usage Notes

SMSACSDC assigns a data class to a data set. It overrides any data class already set in the JCL or in an ACS routine.

SMSACSDC applies to all data sets.

The DATACLAS parameter, which specifies the new data class name, is required, unless REPLACE=NO is specified.

If the JCL- or ACS-specified data class is to be removed, without setting a new data class, then DATACLAS="" should be specified. This overrides the existing data class with a null value; the data set is not assigned to a data class. In this case, message SVM0300I specifies DATACLAS() ASSIGNED.

The REPLACE parameter specifies whether an existing data class (given in the JCL or ACS routine) is replaced by the value in the rule. REPLACE=YES directs that an existing data class is replaced by the data class in the rule list; REPLACE=NO directs that an existing data class is not changed. If no data class is assigned by the JCL or ACS routine, the REPLACE parameter is ignored, and the data class specified in the rule is assigned to the data set.

The order of invocation of the DFSMS ACS routines and the SMSACSxx functions is:

DFSMS	data class ACS routine
MAINVIEW SRM	SMSACSDC function
DFSMS	other ACS routines
MAINVIEW SRM	SMSACSSC function
MAINVIEW SRM	SMSACSMC function
MAINVIEW SRM	SMSACSSG function
MAINVIEW SRM	SMSACSTE function

SMS constructs set in later functions are not available for use in earlier functions; for example, a storage group set by SMSACSSG cannot be included by a rule in SMSACSDC, because the storage group is not set until after SMSACSDC has completed.

Due to information that is available from OS/390 at the time this function is invoked, the only MAINVIEW SRM selection parameters that have values are those that correspond to DFSMS ACS variables. These parameters are:

DATACLAS	DD	DSN	DSNn
DSNTYPE	DSORG	DSTYPE	ENVIR
EXPDT	HLQ	JOB	JOBACCTn
LLQ	MAXSIZE	MGMTCLAS	NQUAL
PGM	RACF	RECORG	RETPD
SIZE	SMSMANAGED	STEPACCTn	STOGROUP
STORCLAS	UNIT	USER	VOL
XMODE			

Note that the MAINVIEW SRM ACS functions execute *after* any installation-written ACS routines execute.

SMSACSDC issues message SVM0300I when it sets a data class:

SVM0300I *job,step,dd,dsn* DATACLAS (*xxxx*) ASSIGNED

where *xxxx* is the new data class name.

Note that the SMSACSDC function must be specified in the SMFUNCxx member to be available and must be set active to provide service.

Example

Use SMSACSDC to assign data sets to classes based on physical organization. Disallow requests for off-site tape data sets for test jobs. Disallow requests for a maximum-size data class for data sets with a maximum size less than 100 megabytes.

SMFUNC08 member

```
SET  NAME=SMSACSDC ACTIVE=YES
      MSG=I SMF=I
      FLST=8A RLST=8B
      DESC='ASSIGN DATA CLASSES'
```

The function is defined and activated.

SMFLST8A member

```
SET  MODE=ACT
      INC DSN=/'
```

Select all data sets for processing.

SMRLST8B member

```
SET  DATACLAS=PDSCARD REPLACE=YES
      INC DSORG=PO LLQ=*CARD
```

All partitioned data sets whose last name qualifier ends with "CARD" are assigned to data class PDSCARD.

```
SET  DATACLAS=LISTING REPLACE=YES
      INC DD=SYSOUT
      INC DD=*LST
```

Data sets on DDname "SYSOUT" or with a DDname ending in "LST" are assigned to data class LISTING.

```
SET  DATACLAS=VSAMKEY REPLACE=YES
      INC REORG=KS
```

VSAM key-sequenced data sets are assigned to data class VSAMKEY.

```
SET  DATACLAS=VSAMENR REPLACE=YES
      INC REORG=ES
```

VSAM entry-sequenced data sets are assigned to data class VSAMENR.

```
SET  DATACLAS="" REPLACE=YES
      INC JOBACCT3=NODATACL
```

Do not assign a data class for jobs with the proper override code in the job accounting field.

```
SET  REPLACE=NO
      INC USER=SYSP*
```

Do not modify data classes in jobs run by system programmers.

SMSACSMC - Assign SMS Management Class

The SMSACSMC function assigns a DFSMS data set to a management class.

A management class defines a list of migration, backup, and retention attributes. DFHSM uses the management class to manage data set migration from primary storage to DFHSM-owned storage to archival storage and to manage the data set backup activity. Management class can also be used to limit the retention period/expiration date of data sets.

SMSACSMC allows a management class to be assigned to a data set that does not have a management class and allows a management class assignment already made by JCL or an ACS routine to be overridden. The four SMSACSxx functions (SMSACSDC, SMSACSMC, SMSACSSC, SMSACSSG) allow non-DFSMS-managed data sets to be put under DFSMS management without the use of ACS routines.

Parameter Quick Reference

SET Statement (in member SMRLSTxx)

Parameter	Description
EVENTID=xxxxx	identifies a user event defined in an SMEVNTxx member
REPLACE=YES/NO	specifies if the MGMTCLAS parameter is applied or not
MGMTCLAS=xxxxxxxx	specifies the DFSMS management class to be used

Parameter Explanations

EVENTID=

Purpose: Specifies the identifier assigned to a user event in SMEVNTxx. This parameter will cause an event to be generated from this function.

Note: If EVENTID= is used on an FLST SET statement with MODE=INACT, the event will still be issued.

Syntax: EVENTID=xxxxx

where xxxxx is the 5-character string specified on the EVNTID parameter in SMEVNTxx.

Default: None

MGMTCLAS=

Purpose: Specifies a valid DFSMS management class name. The SMSACSMC function returns this name as the new management class for the data set. This is a required parameter, unless REPLACE=NO.

Note: This value is validated against DFSMS management classes at MAINVIEW SRM start-up, when the rule list for SMSACSMC is refreshed, and when the SMFUNCxx member is refreshed. If the MGMTCLAS value is not a valid DFSMS management class, the system start or refresh fails. (If DFSMS is not present, the value is not validated.)

Syntax: MGMTCLAS=xxxxxxxx

where xxxxxxxx is a 0-8 character management class name. A null string can be specified by two apostrophes with no intervening characters (MGMTCLAS='').

Default: None

REPLACE=

Purpose: Specifies whether the management class name set by the SMSACSMC function replaces any previous management class set by the JCL or ACS routine. REPLACE=YES causes the SMSACSMC management class to replace a pre-existing management class, while REPLACE=NO allows a pre-existing management class to be assigned. If there is no management class assigned by the JCL or ACS routine, the REPLACE parameter is ignored and the SMSACSMC value is assigned. This is an optional parameter.

Syntax: REPLACE=YES/NO

Default: REPLACE=YES

Usage Notes

The SMSACSMC-assigned management class overrides any management class already set in the JCL or in an ACS routine.

SMSACSMC applies to all DASD data sets, DFSMS-managed or non-DFSMS-managed. SMSACSMC is activated for data sets with a status disposition of NEW or MOD.

The MGMTCLAS parameter, which specifies the new management class name, is required, unless REPLACE=NO.

If the JCL- or ACS-specified management class is to be removed, without setting a new management class, MGMTCLAS="" should be specified. This overrides the existing management class with a null value; the data set is not assigned to a management class. Message SVM0302I shows MGMTCLAS() ASSIGNED in this case.

The REPLACE parameter specifies whether an existing management class (given in the JCL or ACS routine) is replaced by the value in the rule. REPLACE=YES directs that an existing management class is replaced by the management class in the rule list; REPLACE=NO directs that an existing management class is not changed. If no management class is assigned by the JCL or ACS routine, the REPLACE parameter is ignored and the management class specified in the rule is assigned to the data set.

The order of invocation of the DFSMS ACS routines and the SMSACSxx functions is:

DFSMS	data class ACS routine
MAINVIEW SRM	SMSACSDC function
DFSMS	other ACS routines
MAINVIEW SRM	SMSACSSC function
MAINVIEW SRM	SMSACSMC function
MAINVIEW SRM	SMSACSSG function
MAINVIEW SRM	SMSACSTE function

SMS constructs set in later functions are not available for use in earlier functions; for example, a storage group set by SMSACSSG cannot be included by a rule in SMSACSDC, because the storage group is not set until after SMSACSDC has completed.

SMSACSMC allows you to set the management class for any data set, DFSMS-managed or not. However, if the data set is not DFSMS-managed, setting the management class has no noticeable effect; setting only the management class does not make a data set DFSMS-managed. (Setting the storage class and storage group in functions SMSACSSC/SG puts the data set under DFSMS management.)

Due to information that is available from OS/390 at the time this function is invoked, the only selection parameters that have values are those that correspond to DFSMS ACS variables. These parameters are:

DATACLAS	DD	DSN	DSNn
DSNTYPE	DSORG	DSTYPE	ENVIR
EXPDT	HLQ	JOB	JOBACCTn
LLQ	MAXSIZE	MGMTCLAS	NQUAL
PGM	RACF	REORG	RETPD
SIZE	SMSMANAGED	STEPACCTn	STOGROUP
STORCLAS	UNIT	USER	VOL
XMODE			

Note that the ACS functions execute *after* any installation-written ACS routines execute.

SMSACSMC issues message SVM0302I when it sets a management class:

SVM0302I *job,step,dd,dsn* MGMTCLAS (xxxx) ASSIGNED

where xxxx is the new management class name.

Note that the SMSACSMC function must be specified in the SMFUNCxx member to be available and must be set active to provide service.

Example

Use SMSACSMC to assign data sets to management classes.

SMFUNC00 member

```
SET  NAME=SMSACSMC  ACTIVE=YES
      MSG=I  SMF=I
      FLST=D2  RLST=D2
      DESC='ASSIGN MANAGEMENT CLASSES'
```

The function is defined and activated.

SMFLSTD2 member

```
SET  MODE=ACT
      EXC  RETPD<3  JOBACCT3=TEST
      INC  DSN=/'
```

Select all data sets except those test data sets with a retention period less than three days.

SMRLSTD2 member

```
SET  MGMTCLAS=GDGPROD  REPLACE=NO
      INC  MGMTCLAS=GDGPROD
```

Do not change any preset management class of GDGPROD.

```
SET  MGMTCLAS=M7DAYS  REPLACE=YES
      INC  LLQ=LIST/
      INC  DD=RPT*
      INC  DD=*LIST
      INC  DD=*PRINT
```

Assign a short-term management class to listing data sets.

```
SET  MGMTCLAS=EXTBAK  REPLACE=YES
      INC  DSORG=PO  LLQ=(SRC/, PGM/)
```

Assign an extended-backup management class to source data sets.

```
SET  MGMTCLAS=GDGBKUP  REPLACE=YES
      INC  DSTYPE=GDG
```

Assign a standard GDG management class to all GDG data sets.

```
SET  MGMTCLAS=STANDEF  REPLACE=YES
      INC  DSN=/'
```

Assign a default management class to all other data sets.

SMSACSSC - Assign SMS Storage Class

The SMSACSSC function assigns a DFSMS data set to a storage class.

A storage class defines the performance and availability requirements used to assign a data set to a device. The storage class does not directly represent a physical storage device, but rather provides the criteria that DFSMS uses in selecting a device for a data set. A data set is system-managed if it has a storage class. Storage classes free you from the requirement of knowing the physical characteristics of storage devices and allow the storage administrator to direct data sets to devices based on processing needs.

SMSACSSC allows a storage class to be assigned to a data set that does not have a storage class and allows a storage class assignment already made by JCL or an ACS routine to be overridden. The four SMSACSxx functions (SMSACSDC, SMSACSMC, SMSACSSC, SMSACSSG) allow non-DFSMS-managed data sets to be put under DFSMS management without the use of ACS routines.

Parameter Quick Reference

SET Statement (in member SMRLSTxx)

Parameter	Description
EVENTID=xxxxx	identifies a user event defined in an SMEVNTxx member
STORCLAS=xxxxxxxx	specifies the DFSMS storage class to be used
REPLACE=YES/NO	specifies if the STORCLAS parameter is applied or not

Parameter Explanations

EVENTID=

Purpose: Specifies the identifier assigned to a user event in SMEVNTxx. This parameter will cause an event to be generated from this function.

Note: If EVENTID= is used on an FLST SET statement with MODE=INACT, the event will still be issued.

Syntax: EVENTID=xxxxx

where xxxxx is the 5-character string specified on the EVNTID parameter in SMEVNTxx.

Default: None

REPLACE=

Purpose: Specifies whether the storage class name set by the SMSACSSC function replaces any previous storage class set by the JCL or ACS routine. REPLACE=YES causes the SMSACSSC storage class to replace a pre-existing storage class, while REPLACE=NO allows a pre-existing storage class to be assigned. If there is no storage class assigned by the JCL or ACS routine, the REPLACE parameter is ignored and the SMSACSSC value is assigned. This is an optional parameter.

Syntax: REPLACE=YES/NO

Default: REPLACE=YES

STORCLAS=

Purpose: Specifies a valid DFSMS storage class name. The SMSACSSC function returns this name as the new storage class for the data set. This is a required parameter, unless REPLACE=NO.

Note: This value is validated against DFSMS storage classes at MAINVIEW SRM start-up, when the rule list for SMSACSSC is refreshed, and when the SMFUNCxx member is refreshed. If the STORCLAS value is not a valid DFSMS storage class, the system start or refresh fails. (If DFSMS is not present, the value is not validated.)

Syntax: STORCLAS=xxxxxxx

where xxxxxxx is a 0-8 character storage class name. A null string can be specified by two apostrophes with no intervening characters (STORCLAS=").

Default: None

Usage Notes

The SMSACSSC-assigned storage class overrides any storage class already set in the JCL or in an ACS routine.

SMSACSSC applies to all DASD data sets, DFSMS or non-DFSMS. SMSACSSC is activated for data sets with a status disposition of NEW or MOD.

The **STORCLAS** parameter, which specifies the new storage class name, is required, unless **REPLACE=NO**.

If the JCL- or ACS-specified storage class is to be removed, without setting a new storage class, then **STORCLAS=**” should be specified. This overrides the existing storage class with a null value; the data set is not assigned to a storage class. Message **SVM0301I** shows **STORCLAS() ASSIGNED** in this case.

The **REPLACE** parameter specifies whether an existing storage class (given in the JCL or ACS routine) is replaced by the value in the rule.

REPLACE=YES directs that an existing storage class is replaced by the storage class in the rule list; **REPLACE=NO** directs that an existing storage class is not changed. If no storage class is assigned by the JCL or ACS routine, the **REPLACE** parameter is ignored and the storage class specified in the rule is assigned to the data set.

The order of invocation of the DFSMS ACS routines and the **SMSACSxx** functions is:

DFSMS	data class ACS routine
MAINVIEW SRM	SMSACSDC function
DFSMS	other ACS routines
MAINVIEW SRM	SMSACSSC function
MAINVIEW SRM	SMSACSMC function
MAINVIEW SRM	SMSACSSG function
MAINVIEW SRM	SMSACSTE function

SMS constructs set in later functions are not available for use in earlier functions; for example, a storage group set by **SMSACSSG** cannot be included by a rule in **SMSACSDC**, because the storage group is not set until after **SMSACSDC** has completed.

SMSACSSC allows you to set the storage class for any data set, DFSMS-managed or not. If the data set is not DFSMS-managed, setting the storage class causes the data set to be placed under DFSMS control. In this case, it is also necessary to assign the data set to a storage group, using the function **SMSACSSG**.

Due to information that is available from OS/390 at the time this function is invoked, the only MAINVIEW SRM selection parameters that have values are those that correspond to DFSMS ACS variables. These parameters are:

DATACLAS	DD	DSN	DSNn
DSNTYPE	DSORG	DSTYPE	ENVIR
EXPDT	HLQ	JOB	JOBACCTn
LLQ	MAXSIZE	MGMTCLAS	NQUAL
PGM	RACF	RECORG	RETPD
SIZE	SMSMANAGED	STEPACCTn	STOGROUP
STORCLAS	UNIT	USER	VOL
XMODE			

Note that the MAINVIEW SRM ACS functions execute *after* any installation-written ACS routines execute. Assignments made by the MAINVIEW SRM functions override assignments made in existing ACS routines.

SMSACSSC issues message SVM0301I when it sets a storage class:

SVM0301I *ob,step,dd,dsn* STORCLAS (*xxxx*) ASSIGNED

where *xxxx* is the new storage class name.

Note that the SMSACSSC function must be specified in the SMFUNCxx member to be available and must be set active to provide service.

Example

Use SMSACSSC to assign data sets to storage classes.

SMFUNC23 member

```
SET    NAME=SMSACSSC ACTIVE=YES
        MSG=I SMF=I
        FLST=33 RLST=34
        DESC='ASSIGN STORAGE CLASSES'
```

The function is defined and activated.

SMFLST33 member

```
SET    MODE=ACT
        INC DSN=/'
```

Select all data sets for storage class assignment.

SMRLST34 member

```
SET    REPLACE=NO
        INC STORCLAS=GDSPACE

SET    STORCLAS=NOVIO REPLACE=YES
        INC DD=SORT*

SET    STORCLAS=DBCRT REPLACE=YES
        INC DSN2=MSTR*

SET    STORCLAS=FASTREAD REPLACE=YES
        INC DSN3=ONLNE*

SET    STORCLAS=STANDARD REPLACE=YES
        INC DSN=/'
```

Do not change any preset storage class of GDSPACE.

Assign sort work data sets to a non-VIO class.

Assign master file data sets to a storage class with continuous availability.

Assign online data sets to a storage class providing faster than average read I/O.

Assign all other data sets to the standard storage class.

SMSACSSG - Assign SMS Storage Group

The SMSACSSG function assigns a DFSMS data set to a storage group.

A storage group is a collection of volumes with specific attributes. Storage groups represent physical storage resources. Together with storage classes, storage groups separate the logical requirements of accessing data from the physical requirements of storing data. New data sets can be directed to as many as 15 storage groups, although only 1 is used for the allocation. Unlike data class, management class, and storage class, storage group cannot be specified in JCL.

SMSACSSG allows a storage group to be assigned to a data set that does not have a storage group and allows a storage group assignment already made by an ACS routine to be overridden. The four SMSACSxx functions (SMSACSDC, SMSACSMC, SMSACSSG, SMSACSSG) allow non-DFSMS-managed data sets to be put under DFSMS management without the use of ACS routines.

Parameter Quick Reference

SET Statement (in member SMRLSTxx)

Parameter	Description
EVENTID=xxxxx	identifies a user event defined in an SMEVNTxx member
REPLACE=YES/NO	specifies if the STOGROUP parameter is applied or not
STOGROUP=(xxxxxx, . . .)	specifies the DFSMS storage group(s) to be used

Parameter Explanations

EVENTID=

Purpose: Specifies the identifier assigned to a user event in SMEVNTxx. This parameter will cause an event to be generated from this function.

Note: If EVENTID= is used on an FLST SET statement with MODE=INACT, the event will still be issued.

Syntax: EVENTID=xxxxx

where xxxxx is the 5-character string specified on the EVNTID parameter in SMEVNTxx.

Default: None

REPLACE=

Purpose: Specifies whether the storage group name set by the SMSACSSG function replaces any previous storage group set by the JCL or ACS routine. REPLACE=YES causes the SMSACSSG storage group to replace a pre-existing storage group, while REPLACE=NO allows a pre-existing storage group to be assigned. If there is no storage group assigned by the JCL or ACS routine, the REPLACE parameter is ignored and the SMSACSSG value is assigned. This is an optional parameter.

Syntax: REPLACE=YES/NO

Default: REPLACE=YES

STOGROUP=

Purpose: Specifies up to 15 valid DFSMS storage group names. The SMSACSSG function returns these names as the eligible storage groups for the data set. This is a required parameter, unless REPLACE=NO.

Note: This value is validated against DFSMS storage groups at MAINVIEW SRM start-up, when the rule list for SMSACSSG is refreshed, and when the SMFUNCxx member is refreshed. If the STOGROUP value is not a valid DFSMS storage group, the system start or refresh fails (If DFSMS is not present, the value is not validated.)

Syntax: STOGROUP=(xxxxxxxx, xxxxxxxx, . . .)

where xxxxxxxx is a 0-8 character storage group name. Up to 15 names can be specified. If only one storage group name is specified, the parentheses are not required. A null string can be specified by two apostrophes with no intervening characters (STOGROUP=").

Default: None

Usage Notes

The SMSACSSG-assigned storage group overrides any storage group already set in an ACS routine.

SMSACSSG applies to all data sets, DFSMS-managed or not DFSMS-managed. SMSACSSG is activated for data sets with a status disposition of NEW or MOD.

The STOGROUP parameter, which specifies up to 15 storage group names, is required, unless REPLACE=NO.

If the ACS-specified storage group is to be removed, without setting a new storage group, then STOGROUP="" should be specified. This overrides any pre-assigned storage group with a null value; the data set is not assigned to a storage group. Message SVM0303I shows STOGROUP() ASSIGNED in this case.

The REPLACE parameter specifies whether an existing storage group (given in the JCL or ACS routine) is replaced by the value in the rule. REPLACE=YES directs that an existing storage group is replaced by the storage group in the rule list; REPLACE=NO directs that an existing storage group is not changed. If no storage group is assigned by the JCL or ACS routine, the REPLACE parameter is ignored and the storage group specified in the rule is assigned to the data set.

The order of invocation of the DFSMS ACS routines and the SMSACSxx functions is:

DFSMS	data class ACS routine
MAINVIEW SRM	SMSACSDC function
DFSMS	other ACS routines
MAINVIEW SRM	SMSACSSC function
MAINVIEW SRM	SMSACSMC function
MAINVIEW SRM	SMSACSSG function
MAINVIEW SRM	SMSACSTE function

SMS constructs set in later functions are not available for use in earlier functions; for example, a storage group set by SMSACSSG cannot be included by a rule in SMSACSDC, because the storage group is not set until after SMSACSDC has completed.

SMSACSSG allows you to set the storage group for any data set, DFSMS-managed or not. If the data set is not DFSMS-managed, setting the storage group has no noticeable effect; setting only the storage group does not make a data set DFSMS-managed. (Setting both the storage group and storage class in functions SMSACSSG/SC puts the data set under DFSMS management.)

Due to information that is available from OS/390 at the time this function is invoked, the only selection parameters that have values are those that correspond to DFSMS ACS variables. These parameters are:

DATACLAS	DD	DSN	DSNn
DSNTYPE	DSORG	DSTYPE	ENVIR
EXPDT	HLQ	JOB	JOBACCTn
LLQ	MAXSIZE	MGMTCLAS	NQUAL
PGM	RACF	RECORG	RETPD
SIZE	SMSMANAGED	STEPACCTn	STOGROUP
STORCLAS	UNIT	USER	VOL
XMODE			

Note that the ACS functions execute *after* any installation-written ACS routines execute.

SMSACSSG issues message SVM0303I when it sets a storage group:

SVM0303I *job,step,dd,dsn* STOGROUP (*xxxx*) ASSIGNED

where *xxxx* is the new storage group name.

Note that the SMSACSSG function must be specified in the SMFUNCxx member to be available and must be set active to provide service.

Example

Use SMSACSSG to assign data sets to storage groups.

SMFUNC23 member

```
SET  NAME=SMSACSSG ACTIVE=YES
      MSG=I SMF=I
      FLST=33 RLST=34
      DESC='ASSIGN STORAGE GROUPS'
```

The function is defined and activated.

SMFLST33 member

```
SET  MODE=ACT
      INC DSN=/'
```

Select all data sets for storage group assignment.

SMRLST34 member

```
SET  REPLACE=NO
      INC STOGROUP=SYSTEM
```

Do not change any preset storage group of SYSTEM.

```
SET  STOGROUP=VIO REPLACE=YES
```

Assign small data sets to a VIO storage group.

```
SET  STOGROUP=DATABASE REPLACE=YES
      INC DSN2=MSTR*
```

Assign master file data sets to a storage group with for data bases.

```
SET  STOGROUP=LARGE REPLACE=YES
      INC MAXSIZE>100MB
```

Assign very large data sets to a storage group reserved for the allocation of large data sets.

```
SET  STOGROUP=STANDARD REPLACE=YES
      INC DSN=/'
```

Assign all other data sets to the standard storage group.

SMSMCREN - Identify Data Set Rename Requiring Management Class Change

The SMSMCREN function identifies data set renames that require a change in management class; that is, the management class for the new name is different from the management class for the old name.

Management classes allow enforcement of storage retention policies at a data set level. Management classes can affect data set retention/expiration date, release of allocated but unused space, and DFHSM migration and backup. When a data set is allocated, the management class can be set explicitly by JCL, or by an ACS routine. This management class stays with the data set until it is deleted, or manually changed by the installation through DFSMS utilities. Renaming the data set can reclassify that data set into a different management class; however, DFSMS does not change the management class on a data set name change.

For data set renames that require a management class change, SMSMCREN detects and reports the management class for the original data set name and the management class for the new data set name.

Parameter Quick Reference

SET Statement (in member SMRLSTxx)

Parameter	Description
EVENTID=xxxxx	identifies a user event defined in an SMEVNTxx member

Parameter Explanations

EVENTID=

Purpose: Specifies the identifier assigned to a user event in SMEVNTxx. This parameter will cause an event to be generated from this function.

Note: If EVENTID= is used on an FLST SET statement with MODE=INACT, the event will still be issued.

Syntax: EVENTID=xxxxx

where xxxxx is the 5-character string specified on the EVNTID parameter in SMEVNTxx.

Default: None

Filter List Parameters Not Supported

The following filter list parameters are not supported by SMSMCREN:

ALCTYPE	BLKSIZE	BUFSP	CISIZE
CONTIG	CURSPACE	DATACLAS	DD
DEVTYPE	DIR	DSNTYPE	ERASE
EXPDT	EXTENT	IMBED	LRECL
MAXSIZE	MGMTCLAS	MNTYPE	OWNER
POOL	PRISPACE	RECFM	RELEASE
REPL	RETPD	REUSE	ROUND
SECSPACE	SIZE	SMS	STOGROUP
STORCLAS	UNIT	VOL	VSAMCOMP

Usage Notes

SMSMCREN operates on any SMS-managed data set being renamed. If the management class changes for the renamed data set, SMSMCREN issues a MAINVIEW SRM message. If the management class does not change with a rename, SMSMCREN does not issue a message.

SMSMCREN does not change the management class.

SMSMCREN recognizes a change in management class by comparing the existing management class with the management class returned by a call to the DFSMS ACS routine and the MAINVIEW SRM SMSACSMC function. If the management class function returns the same management class that is already assigned to the data set, SMSMCREN does not report a change; if the returned management class is different, SMSMCREN does report a change. Note that if the SMSACSMC function's rule that applies to this data set has REPLACE=NO, no management class is returned to SMSMCREN, which correctly interprets this as no change in management class. Also, if the SMSACSMC function's rule assigns a null management class (MGMTCLAS=), no change is reported by SMSMCREN (because this is identical to the output of REPLACE=NO).

All selection parameters are available for use in the SMSMCREN filter list; however, the SMSACSMC function is limited to certain parameters. The function description of SMSACSMC in the EasySMS section of this manual details the selection parameters available to SMSACSMC. In addition to those parameters, when SMSACSMC is called by SMSMCREN, the ENVIR parameter will be set to RENAM.

Because the function has no RLST operands to set, all resource selection must be done through the FLST.

The MSG parameter for this function, either in SMFUNCxx or in SMFLSTxx, should not be set to W, E, S, or N, since this would prevent the informational message provided by SMSMCREN from being produced.

Note that the SMSMCREN function must be specified in the SMFUNCxx member to be available and must be set active to provide services.

SMSMCREN generates message SVM3399I when it identifies a data set rename that requires a management class change:

```
SVM3399I  job,step,dd,dsn MGMTCLAS SHOULD BE ALTERED FROM
          oldclass TO newclass
```

where *oldclass* identifies the original management class and *newclass* identifies the new management class that should be assigned

```
SVM3400I  job,step,dsn SMSMCREN LOCATE FAILED RC = return code
SVM3401I  job,step,dsn SMSMCREN ACS CALL FAILED RC = return code
```

Example

Identify all renames that require a change in management class.

SMFUNCxx member

```
SET  NAME=SMSMCREN ACTIVE=YES
      MSG=I SMF=I
      FLST=76
      DESC='INVOKE SMS ON RENAME'
```

The function is defined and activated. There is no RLST specification.

SMFLST76 member

```
SET  MODE=ACT
      INC DSN=/'
```

This filter list specification is active. Selected resources are all data sets.

Example

Identify data set renames that require a change in management class, except for data sets that have a second name qualifier beginning with DEV or are being renamed by a job running in class T.

SMFUNCxx member

SET NAME=SMSMCREN ACTIVE=YES
 MSG=I SMF=I
 FLST=MC
 DESC='INVOKE SMS ON RENAME'

The function is defined and activated. There is no RLST specification.

SMFLSTMC member

SET MODE=ACT
 EXC DSN2=DEV/
 EXC JOBCLASS=T

This filter list specification is active. It selects data sets without a second name qualifier beginning with DEV or in jobs in class T.

Chapter 4 Using the Monitoring and Positioning Facility

Converting a data center to DFSMS can be a time-consuming, complicated, and expensive task. During the conversion, it is often difficult to judge how far along the process is and how much work remains. The EasySMS monitoring and positioning facility is designed to ease the process of preparing for and converting to DFSMS.

The monitoring and positioning facility supplies:

- A set of reports of key DFSMS information, such as data sets not supported by DFSMS, compliance with data set naming standards, possible data classes corresponding to the installation's data sets, data set positioning into DFSMS classes before implementation, and so on.
- Automatic generation of control cards to force data sets into compliance with DFSMS-related standards and classes.

The EasySMS reports can be configured to cover data sets by name, by pool membership, by volume residency, by storage group, by size, and by migration status. Definitions in MAINVIEW SRM and in DFSMS are used to determine how data sets will be affected by the implementation of DFSMS.

Report Summary

The following table lists each EasySMS report code, report name and page number, output type (report and/or control card generation), and output description.

Table 4-1 EasySMS Report Summary (Part 1 of 2)

Report Code	Report Name and Page	Output	Description
DAR	"Data Set Age Report" on page 5-2	Report	Reports the age distribution of data sets by pool and by DFHSM migration level. This information is used to define DFHSM processing.
DCR	"Data Class Recommendation Report" on page 5-4	Report	Groups data sets with similar physical characteristics (LRECL, BLKSIZE, RECFM, DSORG). This information suggests data classes that would be useful for the installation.
DSN	"Data Set Name Violation Report" on page 5-6	Report Control Card Generation	Reports data sets not conforming to the naming standards defined in DSNCHECK. Consistent data set name standards are critical to DFSMS implementation.
DSR	"Data Set Size Report" on page 5-10	Report	Reports the size distribution of data sets by pool and by DFHSM migration level. This information is useful in the determination of migration periods and management classes.
FCR	"Future Construct Report" on page 5-13	Report Control Card Generation	Reports on the prospective assignment of data sets to DFSMS classes, based on the specifications in the current ACS routines and EasyPOOL SMSACSxx functions. This information is useful in the determination of the validity of DFSMS class definitions and assignments.
FPR	"Future Pooling Report" on page 5-18	Report	Reports the size of defined MAINVIEW SRM pools that would result from assignment of existing data sets. This information assists in effectively defining pools and the assignment of data sets to pools.
MVR	"Multiple Volume Report" on page 5-22	Report	Reports the data sets that reside on more than one storage volume. This is critical information when migrating volumes to DFSMS.
NSR	"Data Sets Not Supported by DFSMS Report" on page 5-24	Report Control Card Generation	Identifies data sets that are not supported by DFSMS (unmovable, ISAM, or uncataloged). These data sets can be moved or changed as necessary to allow the volume to be converted to DFSMS.
PVR	"Pool Violation Report" on page 5-27	Report Control Card Generation	Reports on data sets that reside in incorrect pools, according to the current MAINVIEW SRM pool definitions. This information assists in developing and maintaining proper pool definitions and assignments.

Table 4-1 EasySMS Report Summary (Part 2 of 2)

Report Code	Report Name and Page	Output	Description
SCR	"SMS Construct Report" on page 5-30	Report Control Card Generation	Reports on the assignment of existing data sets to DFSMS classes and storage groups. This information is useful in evaluating class definitions and class assignments by ACS routines or SMSACSxx functions.
MCS	"Management Class Synchronization Service" on page 5-33	Control Card Generation	Generates control cards for data sets that have a different management class than would be assigned by the current ACS routine or SMSACSxx function. This facility allows easy reassignment of data sets when management class definitions change. A hardcopy report is not produced.
SCS	"Storage Class Synchronization Service" on page 5-35	Control Card Generation	Generates control cards for data sets that have a different storage class than would be assigned by the current ACS routine or SMSACSxx function. This facility allows easy reassignment of data sets when storage class definitions change. A hardcopy report is not produced.
SGS	"Storage Group Synchronization Service" on page 5-37	Control Card Generation	Generates control cards for data sets that have a different storage group than would be assigned by the current ACS routine or SMSACSxx function. This facility allows easy reassignment of data sets when storage group definitions change. A hardcopy report is not produced.

Example

The following example shows the JCL required to run any of the EasySMS reports.

```
//JOBNAME JOB. . .
//STEP10 EXEC PGM=SMREPORT,REGION=4M
//STEPLIB DD DSN=SVMVS.loadlib,DISP=SHR
//SYSOUT DD SYSOUT=*
//MCDS DD DSN=dfhsm.mcds,DISP=SHR <==optional
//SORTIN DD DSN=&&TEMP1,DISP=(,PASS),SPACE=(CYL,(5,5)),UNIT=unit
//SORTOUT DD DSN=&&TEMP2,DISP=(,PASS),SPACE=(CYL,(5,5)),UNIT=unit
// DCB=BLKSIZE=23400
//SMREPOUT DD SYSOUT=*
//cardout DD DSN=SVMVS.jcl.output,DISP=(NEW,CATLG,DELETE), <==optional
// SPACE=(TRK,(1,1)),UNIT=unit,
// DCB=(LRECL=80,BLKSIZE=13680,RECFM=FB)
//SMREPIN DD*
report specifications
/*
```

DDname	Description
MCDS	Specifies the DFHSM migration control data set. This DDname is required only if migrated data sets are to be included in the report.
SMREPOUT	Specifies the output data set for reports.
cardout	Specifies a data set for generated control cards. Any DDname may be used; it is referred to from the GENERATE CARDS DD control statement. If control card generation is not invoked, this DD statement is not necessary.
SMREPIN	Specifies the input data set containing the control cards for SMREPORT.

Control Statements

EasySMS report processing is requested by a series of control statements that specify the desired report(s) and the resources the report(s) should cover.

Syntax

- Parameters can begin in any column. Only one parameter is allowed per line.
- Keywords are separated by one or more blanks.
- Comments must have an asterisk in column 1, and occupy the entire line. There is no facility for embedded comments on lines with parameters.
- Blank lines are not allowed.
- Each REPORT TYPE parameter begins a report specification. All statements until the next REPORT TYPE or end-of-file are part of that report specification.
- INCLUDE/EXCLUDE parameters may precede the first REPORT TYPE parameter. These selection parameters are treated as global selection criteria; they apply to **all** following report types (that is, all report requests in that execution of SMREPORT).
- At least one INCLUDE parameter must be specified to select resources for a report. There is no default selection. If all resources are desired, an all-inclusive INCLUDE must be specified (for example, INCLUDE DSN=/).

- Each GENERATE CARDS parameter begins a control card generation specification. All cards until the next parameter (GENERATE, REPORT TYPE, INCLUDE/EXCLUDE or comment) are part of that specification.
- Multiple reports can be requested in each execution of SMREPORT. Multiple control card generations can be requested in each supporting report type.

Name Masking

- Full MAINVIEW SRM name masking can be used with all selection parameters. Briefly, the name mask characters are:

%	Specifies a single numeric character
?	Specifies any character except a period (.)
/	Specifies one or more characters at the end of a name
*	Specifies any character string of any length in a single name qualifier
**	Specifies any non-zero number of name qualifiers

Parameter Specifications

Like other MAINVIEW SRM functions, parameters are either action parameters or selection parameters.

Action Parameters

Action parameters specify the type of report you want, whether control cards are to be generated from resources selected for the report, and, for some reports, how the report is organized.

Table 4-2 Action Parameters

Parameter	Usage
REPORT TYPE=xxx	<p>Specifies the type of report. Starts a report specification - all following parameters are for the indicated report, until another report type parameter or end-of-file is found.</p> <p>Valid values are:</p> <ul style="list-style-type: none"> • DAR—Data set age report • DCR—Data set class recommendation report • DSN—Data set name violation report • DSR—Data set size report • FCR—Future construct report • FPR—Future pooling report • MVR—Multiple volume report • NSR—Data sets not supported by DFSMS report • PVR—Pool violation report • SCR—SMS Construct Report • MCS—Management class synchronization (card generation) • SCS—Storage class synchronization (card generation) • SGS—Storage group synchronization (card generation)
GENERATE CARDS DD=xxxxxxxx	<p>Specifies that control cards should be generated. The xxxxxxxx specifies the DDname of the output data set. All lines following the GENERATE statement until the next GENERATE or REPORT TYPE are output card images.</p>
DEFINE STEP=(start size, step size, number of steps)	<p>Specifies the organization of the report. The applicable reports (data set age and data set size) are organized into steps of user-specified sizes (days or sizes). The <i>start size</i> defines the lower limit of the report. Data sets below this age/size are excluded from the report. This number is in days or megabytes.</p> <p>The <i>step size</i> defines the span of each report step in days or size. This number is in days or megabytes.</p> <p>The <i>number of steps</i> defines the number of detail steps in the report. One step is added to this figure, to summarize all data sets above the topmost step; for example:</p> <p>DEFINE STEP = (5, 5, 5) organizes the data set size report into 5 steps of 5 megabytes each, with a final step for all data sets larger than 30 megabytes, and with the lowest step starting at 5 megabytes (data sets smaller than 5 megabytes are not included in the report). The report steps are:</p> <ul style="list-style-type: none"> 5-10 megabytes 10-15 megabytes 15-20 megabytes 20-25 megabytes 25-30 megabytes >30 megabytes

Selection Parameters

Resources for EasySMS reports may be selected or excluded for reporting based on pool membership, volume ID, data set name, storage group membership, size, and migration status. Selection/exclusion is specified on INCLUDE and EXCLUDE statements. A single selection parameter follows each INCLUDE/EXCLUDE (unlike filter and rule lists INCLUDE/EXCLUDEs, multiple selection criteria cannot be ANDed together by specification on the same line).

Multiple separate INCLUDE/EXCLUDE statements may be specified for any report. An EXCLUDE statement excludes the specified resources from the report, regardless of any subsequent INCLUDEs. All INCLUDE statements are ORed together; that is, data sets selected by any INCLUDE are included in the report.

Selection parameters may be specified globally by placing the INCLUDE/EXCLUDE statements before any REPORT TYPE parameters. Global selection parameters apply to all reports requested in the job. The global selection is ORed with any selection parameters for a specific report.

Example

The following example shows how to use global selection parameters:

INCLUDE DSN=SYS1./	Globally select all SYS1 data sets.
REPORT TYPE = FPR	Data sets included in the Future Pooling Report are all those with a first qualifier of SYS1 (from the global include) or all those with a first qualifier of EMP.
INCLUDE DSN=EMP./	
REPORT TYPE = DSR	Data sets included in the Data Set Size Report are all those with a first qualifier of SYS1 (the global include).

At least one INCLUDE parameter must be specified to select resources for a report. There is no default selection. If all resources are desired, an all-inclusive INCLUDE must be specified (for example, INCLUDE DSN=/
or INCLUDE VOLSER=/).

The EasySMS report program normally reads *all* volumes on the system to accumulate data set level information for reporting. If you wish to restrict the volumes read, specify the volumes (or pools or storage groups) with a global INCLUDE and follow that with a global EXCLUDE. If the exclude is omitted or placed after a REPORT TYPE control card, all volumes available on the system will be read.

Table 4-3 Volume and Data Set Restriction for a Report

INC VOLSER=SMS/ EXC VOLSER=/ REPORT TYPE = FCR INC DSN=/ INC VOLSER=SMS/ REPORT TYPE=FCR INC DSN=/ INC VOLSER=SMS/ REPORT TYPE=FCR INC VOLSER=SMS/	Only data sets that reside on volumes with names beginning with SMS are included on the report, <i>and</i> only SMS volumes are read. <i>All</i> data sets on the system are included on the report, and <i>all</i> volumes on the system are read. Only data sets that reside on SMS volumes are included on the report, but <i>all</i> volumes on the system are read.
---	--

The global INCLUDE cards do not limit the data collection activity to those specific volumes; they only guarantee that data collected from those INCLUDE cards are included on each report in the current program execution, along with the data included from any report-specific INCLUDE cards.

Limiting the scope of the data collection for the EasySMS reports is performed by global EXCLUDE control cards. Significantly faster execution results from restricting the volumes (or pools or storage groups) read.

Table 4-4 Selection Parameters

Parameter	Usage
INCLUDE/EXCLUDE POOL=xxxxxxx	Specifies a pool to be included in the report, or excluded from the report. Name masking can be used. Note that this parameter is based only on the pool membership of a volume, as defined in the SMPOOLxx PARMLIB member used by the executing MAINVIEW SRM system. Pool assignments in the DASDPOOL rule list are not considered.
INCLUDE/EXCLUDE VOLSER=xxxxxx	Specifies a volume to be included in the report, or excluded from the report. Name masking can be used.
INCLUDE/EXCLUDE DSN=xxxxxxx. . .	Specifies a data set to be included in the report, or excluded from the report. Name masking can be used.
INCLUDE/EXCLUDE STORAGE GROUP=xxxxxxx	Specifies a storage group to be included in the report, or excluded from the report. Name masking can be used.
EXCLUDE SIZE < <i>nnnn</i>	Specifies that data sets below the given size are to be excluded from the report. Note that this is an exclusion parameter only; it cannot be used with INCLUDE.
EXCLUDE MIGRATED DS = YES	Specifies that migrated data sets should be excluded from the report. Note that this is an exclusion parameter only; it cannot be used with INCLUDE.
EXCLUDE NUMBER OF DS < <i>nn</i>	Specifies that report categories that contain less than <i>nn</i> data sets should be ignored. This parameter applies only to the data class recommendation report. Note that this is an exclusion parameter only; it cannot be used with INCLUDE.

EasySMS Report and Synchronization Services Parameters

All action and selection parameters do not apply to all reports. The following tables summarize which parameters may be used with each report or service.

Table 4-5 EasySMS Report Parameters

Report	Gen Card	Def Step	Exc Size	Exc # of dsn	Exc Mig'd	Inc/Exc Pool	Inc/Exc StgGrp	Inc/Exc Volser	Inc/Exc Dsn
DAR Data Set Age		X	X		X	X	X	X	X
DCR Data Class Recommendation			X	X		X	X	X	X
DSN Data Set Name Violation	X		X		X	X	X	X	X
DSR Data Set Size		X	X		X	X	X	X	X
FCR Future Construct	X		X		X		X	X	X
FPR Future Pooling			X		X	X		X	X
MVR Multiple Volume			X		X	X	X	X	X
NSR Data Sets Not Supported by DFSMS	X		X			X	X	X	X
PVR Pool Violation	X		X			X		X	X
SCR DFSMS Construct	X		X		X		X	X	X

Table 4-6 Synchronization Services Parameters

Synchronization Services	Gen Card	Def Step	Exc Size	Exc # of dsn	Exc Mig'd	Inc/Exc Pool	Inc/Exc StgGrp	Inc/Exc Volser	Inc/Exc Dsn
MCS Mgt Class Synchronization	X		X		X		X	X	X
SCS Stg Class Synchronization	X		X		X		X	X	X
SGS Stg Group Synchronization	X		X		X		X	X	X

Control Card Generation

The control card generation facility of EasySMS allows card image output to be produced containing key information from resources selected for a report. This feature can be used to build control cards to change a data set's pool or storage group, to force migration, and so on.

The following reports support control card generation:

DSN	Data set name violation report
FCR	Future construct report
NSR	Data sets not supported by DFSMS report
PVR	Pool violation report
SCR	SMS construct report
MCS	Management class synchronization function
SCS	Storage class synchronization function
SGS	Storage group synchronization function

To use control card generation, the action parameter **GENERATE CARDS** DD= must follow the report specifications (the **REPORT TYPE** parameter and selection parameters). A DD statement with the name specified in the **GENERATE** parameter must be included in the JCL.

The cards following the **GENERATE** parameter are patterns for the control cards to be generated. Each pattern card is scanned for the occurrence of valid substitution variables (these are special variables for EasySMS reporting, not the variables defined in **SMVARxx**). Each variable is replaced with the corresponding value for the selected data set. Other text in the pattern card is output with no changes; for example:

pattern card	<code>ALTER &DSN STORAGECLASS (' &SCNAME ')</code>
might generate	<code>ALTER DIVA20.MASTER.EMP25N STORAGECLASS (' DBCRIT ')</code>

A maximum of 10 control card patterns can be specified. Any card patterns over 10 are ignored and do not produce any output cards.

The variables that can be used are listed in the following table.

Table 4-7 **Variables (Part 1 of 2)**

Variable Name	Description
&BLKSZ	Block size
&CRDATE	Creation date
&DCNAME	DFSMS Data Class
&DSN	Data set name

Table 4-7 Variables (Part 2 of 2)

Variable Name	Description
&DSORG	Data set organization
&IDLESPACE	Unused but allocated data set space in megabytes
&LRDATE	Date of last reference
&LRECL	Record length
&MCNAME	DFSMS Management Class
&POOL	MAINVIEW SRM pool name
&REASON	Reason for inclusion in report (violation reports only)
&RECFM	Record format
&SCNAME	DFSMS Storage Class
&SGNAME	DFSMS Storage Group
&SIZE	Size of data set (total of allocated extents) in megabytes
&USEDSPACE	Space used by data set (allocated minus unused) in megabytes (less than 64K is reported as zero)
&VOLSER	Volume ID

The &VOLSER variable is not available for the Future Construct Report and the three synchronization services. With the Pool Violation Report, the &REASON variable contains the name of the pool assigned by DASDPOOL.

Messages

The EasySMS reporting program issues the following messages:

*** AN ERROR WAS DETECTED READING YOUR CONTROL CARDS
... VERIFY SMREPIN AND TRY AGAIN ***

An I/O error was encountered on the SMREPIN data set. Ensure that SMREPIN exists and contains control card input.

*** UNABLE TO GET MEMORY FOR PROGRAM ... INCREASE
REGION AND TRY AGAIN ***

A GETMAIN macro failed. Increase the region size parameter in the JCL. A region size of at least 4 megabytes are recommended.

*** THE MAINVIEW SRM MVS STARTED TASK MUST BE UP ...
PLEASE START IT UP AND TRY AGAIN ***

MAINVIEW SRM must be active for the EasySMS report program to run.

*** PASSWORD DOES NOT ACCESS EASYSMS COMPONENT ...
PLEASE CONTACT BMC SOFTWARE ***

The password specified in the MAINVIEW SRM SMSYS.xx member indicates that the EasySMS product is not authorized to run at your installation.

SVM0190E,,SMREPORT,SMREP004,PARSE ERROR : *card image*

An error was encountered on a control card passed to SMREPORT. Correct the card in error and execute the job again.

Table 4-8 Message Parameters

Parameter	Usage
INCLUDE POOL=WORK/	This global selection parameter applies to all report requests below.
REPORT TYPE=DSN INCLUDE DSN = EMP./	A data set name violation report is requested. It will include all data sets whose first name qualifier is EMP. and also (from the global parameter) all data sets in any WORKxx pool.
GENERATE CARDS DD=CARDOUT ALTER &DSN - NEWNAME(&DSN.XXX)	With the data set name violation report, control cards will be written to the CARDOUT data set. Each data set with a name violation will generate two cards (ALTER/NEWNAME), containing IDCAMS statements to rename the data set.
REPORT TYPE=DAR DEFINE STEP=(5,10,5) EXCLUDE SIZE < 10 INCLUDE VOLSER=PROD/	A second report is requested. The data set age report will include all data sets on volumes whose names begin with PROD and also (from the global parameter) all data sets in any WORKxx pool. However, all data sets smaller than 10 megabytes are excluded. The report will be organized into 5 steps of 10 days each, beginning with data sets older than 5 days.
REPORT TYPE=PVR EXCLUDE DSN=**.TEST/ INCLUDE POOL=VSM011 INCLUDE POOL=PRODA5 INCLUDE STORAGE GROUP=MN41	A pool violation report is requested. Data sets from pools VSM011 and PRODA5 will be included, as well as all data sets in storage group MN41. Also included (from the global parameter) are all data sets in any WORKxx pool. However, all data sets whose final name qualifier begins with TEST are excluded from the report.

Filter and Rule Lists

A number of the EasySMS reports use the filter and/or rule lists associated with MAINVIEW SRM functions:

Table 4-9 Functions by Report

Report	Function
Future Construct Report	SMSACSxx
Pool Violation Report	DASDPOOL
Future Pooling Report	DASDPOOL
Data Set Name Violation Report	DSNCHECK
Storage Class Synchronization Service	SMSACSSC
Management Class Synchronization Service	SMSACSMC
Storage Group Synchronization Service	SMSACSSG

Many MAINVIEW SRM selection parameters that can be coded in a filter or rule list are for job execution values, such as job name, DD name, and so on. These parameters will generally be *non-valued* during execution of the EasySMS reports; that is, parameters that are dependent upon job execution will not have a valid value.

For purposes of the EasySMS reports, non-valued parameters are ignored in filter and rule list processing; that is, the non-valued parameter will not be considered in determining if the filter or rule list condition is satisfied.

Example

For example, during execution of the Future Construct Report, this rule for the SMSACSSC function

```
SET  STORCLAS = HIGH90
INCLUDE JOB=SYSPGM/ DD=SP$$$$$ DSN=*.TEST
```

will be satisfied only if the data set name ends with TEST. The parameters JOB and DD are both non-valued for the Future Construct Report and do not participate in INCLUDE processing.

The description for each EasySMS report that uses MAINVIEW SRM functions has a list of parameters that will be valid during report execution. All parameters not listed will be non-valued.

Chapter 5 **EasySMS Report Descriptions and Samples**

The following reports are described on the page indicated followed by samples of each.

Data Set Age Report	5-2
Data Class Recommendation Report	5-4
Data Set Name Violation Report	5-6
Data Set Size Report	5-10
Future Construct Report	5-13
Future Pooling Report.	5-18
Multiple Volume Report	5-22
Data Sets Not Supported by DFSMS Report	5-24
Pool Violation Report	5-27
SMS Construct Report	5-30
Management Class Synchronization Service	5-33
Storage Class Synchronization Service	5-35
Storage Group Synchronization Service.	5-37

Data Set Age Report

The data set age report displays the age distribution of selected data sets.

Organization

The report is organized by pool, age, and migration level. Selected data sets are grouped by pool first; within each pool, data sets are grouped by age, based on user-defined aging parameters. Within each age category, data sets are grouped by migration level.

Both the number of data sets and the total size of data sets are given, by count and by percentage. Cumulative totals are also reported.

Utility

This report shows the distribution of data sets within a pool by age; it also displays how long pooled data sets are remaining at each migration level. This information can be used to adjust migration periods for data sets and pools, and for indications of appropriate management class definitions. It can be used as an indication of short-term space requirements. This report is also useful in determining the age for forced migration of data sets. By using appropriate selection parameters, aging can also be examined by data set name, by volume, and by storage group.

Usage Notes

The age of a data set is the number of days that have elapsed since the data set was last referenced (without regard to any non-working day specifications in SMCALSxx). For example, if a data set was last referred to the day before the Data Set Age Report is produced, that data set will have an age of one day. The age of a migrated data set is also calculated from the date of last reference, which is usually earlier than the data set's migration date. (Note that the figures on the report for ML1 and ML2 data sets do not, therefore, represent the number of days since the data set was migrated.)

This report allows user definition of the age brackets by the STEP action parameter:

DEFINE STEP = (*start days*, *step size*, *number of steps*)

where:

The *start days* defines the lower limit of the report. Data sets below this age are excluded from the report. This number is in days.

The *step size* defines the span of each report step in days.

The *number of steps* defines the number of detail steps in the report. One step is added to this figure, to summarize all data sets above the topmost step; for example:

DEFINE STEP = (0, 15, 3) organizes the data set age report into 3 steps of 15 days each, with a final step for all data sets older than 45 days, and with the lowest step starting at 0 days. The report steps are:

- 0-14 days
- 15-29 days
- 30-44 days
- >45 days

If the start size is non-zero, any data sets younger than the starting age are not included in the report. However, all data sets older than the highest step are summarized into an automatically added final step.

The DFHSM migration control data set (MCDS) is required if migrated data sets are to be included in the report. If the DDname MCDS is not in the JCL, migrated data sets (ML1 or ML2) are not included. Omitting the MCDS data set has the same affect as specifying EXCLUDE MIGRATED DS = YES.

Table 5-1 Field List for the Data Set Age Report

Column Heading	Description
POOL or STORAGE GROUP	Name of pool or storage group by which report is organized.
START - END	Data sets grouped by user-defined aging parameters.
NUMBER OF DS	Columns that detail the number of data sets in each age/migration bracket.
NUMBER	Number of data sets in the corresponding age/migration bracket.
% TOTAL	The proportion of the data sets in a single age range to the total data sets for the migration level.
CUMMULATIVE	The total of all data in the column to the left and above.
SIZE OF DS	Columns that detail the size of the total data sets in each age/migration bracket.
SIZE	Size of data sets in the corresponding age/migration bracket.
%TOTAL	The proportion of the data sets in a single age range to the total data sets for the migration level.
CUMMULATIVE	The total of all data in the column to the left and above.
TOTAL (ML--+ML1+ML2)	Show the total of all three migration levels in each age bracket.

Figure 5-1 Data Set Age Report

===== DATA SET AGE REPORT ===== BMC SOFTWARE ===== DATE: 16/01/1998 TIME: 14:43 PAGE: 3 =====													
POOL : BMC													
START - END	NUMBER	% TOTAL	NUMBER OF DS CUMMULATIVE		SIZE	%TOTAL	SIZE OF DS CUMMULATIVE		TOTAL (ML0+ML1+ML2)				
0 - 14	ML0	615	86 %	615	86 %	2074 MB	83 %	2074 MB	83 %				
	ML1	225	23 %	225	23 %	535 MB	22 %	535 MB	22 %				
	ML2	0	0 %	0	0 %	0 MB	0 %	0 MB	0 %				
15 - 29	ML0	15	2 %	630	88 %	68 MB	2 %	2142 MB	86 %				
	ML1	217	22 %	442	46 %	901 MB	37 %	1437 MB	60 %				
	ML2	0	0 %	0	0 %	0 MB	0 %	0 MB	0 %				
30 - 44	ML0	15	2 %	645	90 %	90 MB	3 %	2233 MB	89 %				
	ML1	130	13 %	572	60 %	242 MB	10 %	1679 MB	70 %				
	ML2	0	0 %	0	0 %	0 MB	0 %	0 MB	0 %				
45 -	ML0	64	9 %	709	100 %	253 MB	10 %	2487 MB	100 %				
	ML1	374	39 %	946	100 %	699 MB	29 %	2378 MB	100 %				
	ML2	372	100 %	372	100 %	778 MB	100 %	778 MB	100 %				
TOTAL FOR BMC	ML0	709				2487 MB							
	ML1	946				2378 MB							
	ML2	372				778 MB							

Data Class Recommendation Report

The data class recommendation report organizes data sets into categories of identical data set attributes, comparable to DFSMS data classes.

Organization

The report is organized by DCB attributes: record length, block size, record format and organization (DSORG). Selected data sets are accumulated into attribute categories, and reported in decreasing sort order on count (number of data sets in the category) and size (total size of all data sets in the category).

The size of each category (count and space) is reported three ways:

- by horizontal bar chart
- by percentage
- by actual count and size

Utility

This report shows potential data classes for DFSMS implementation. A data class is a list of data set allocation attributes. DFSMS uses the data class to relieve users from knowing the physical requirements of data sets. Data class attributes include record length, record format, data set organization, space requirements, DSNTYPE, and so on. The data class recommendation report, by summarizing data sets by their attributes, shows which sets of attributes would be most useful as data classes.

Example

If 23% of an installation's data sets have the characteristics LRECL=80, BLKSIZE=8000, RECFM=FB, DSORG=PO, then this would be a worthwhile data class.

Also, if 11% of an installation's DASD space is occupied by data sets with the characteristics LRECL=133, BLKSIZE=13300, RECFM=FBA, DSORG=PS, then this would be a worthwhile data class, regardless of how many data sets comprise that group.

Usage Notes

This report allows user definition of the lower frequency limit for reporting data set attribute categories:

EXCLUDE NUMBER OF DS < *nn* >

where *nn* specifies the minimum number of data sets in a category. Any groups DCB attributes with fewer than *nn* data sets are not reported. This allows the report to be restricted to categories of some reasonable size.

The EXCLUDE MIGRATED selection parameter is ignored for this report. Migrated data sets are not included in the report under any circumstances.

Note that, since the sort order is on data set count first and then on size, the full report should be scanned for valid potential data classes. It is quite possible that a category will fall towards the end of the report because it is comprised of only a few data sets. However, those data sets could consume a significant percentage of DASD space; in this case, it may be a viable data class, even though few data sets would use it.

Table 5-2 Field List for the SMS Data Class Recommendation Report

Column Heading	Description
(Horizontal bar chart)	A graphical representation that provides a quick indication of the practicality of a potential data class; the longer the bar, the more data sets that are covered by the data class. For each category, the total count and the total size are represented graphically. Each character represents 2% of the total. Plus characters (+) represent data set count; asterisk characters (*) represent data set size.
TOTAL NUMBER	For each category, the total count and size are displayed as a percentage of the total data sets selected for the report.
MB USED	For each category, the actual total count and size in Megabytes.
LRECL	Record length of data sets in the category.
BLKL	Block size of data sets in the category.

Table 5-2 Field List for the SMS Data Class Recommendation Report

Column Heading	Description
RECFM	Record format of data sets in the category.
DSORG	Data set organization of data sets in the category.

Figure 5-2 SMS Data Class Recommendation

```

=====
SMS DATA CLASS RECOMMENDATION
=====
BMC SOFTWARE
TOTAL NUMBER/MB USED
DATE: 17/01/1998TIME: 14:34 PAGE: 3
LRECL /BLKL /RECFM/DSORG
=====
+++++
*****
59 % 2316
30 % 3001 MB
-----
+++
*****
6 % 236
11 % 1126 MB
-----
++
*
5 % 230
2 % 294 MB
-----
++
4 % 158
0 % 9 MB
-----
+
*
3 % 143
5 % 536 MB
-----
+
*****
3 % 139
12 % 1213 MB
-----
+
*
2 % 96
3 % 349 MB
-----
1 % 49
0 % 55 MB
-----
/ /- /--
-----

```

Data Set Name Violation Report

The data set name violation report displays data sets whose names do not conform to the standards defined in the DSNCHECK rule list.

Organization

The report is organized by pool and volume. Selected data sets are reported by volume and summarized for all volumes in a pool. Summary data is reported separately for unmigrated and migrated data sets. (Storage groups will be reported as separate pools.) A global summary covering all selected data sets/volumes/pools is also produced.

Utility

This report assists in monitoring progress towards compliance with data set naming standards. Since data set naming standards are critical to DFSMS, the report can be used to track progress in preparation for DFSMS conversion.

Selection by data set name mask is useful in identifying naming standards violations by user group or by application area; selection by volume and/or pool is useful in determining the overall progress towards DFSMS naming standards implementation.

With the control card generation facility, data sets in violation can be corrected automatically by generating control cards to cause data set renaming or movement to different volumes or pools.

Usage Notes

The data set naming violation report uses the rule list (SMRLST $_{xx}$) of the DSNCHECK function as the source of the data set naming standards. MAINVIEW SRM must be running; the DSNCHECK rule list in use by the executing version of MAINVIEW SRM will be used.

Report processing is independent of the mode (active, inactive, simulate) of the DSNCHECK function. This allows data set naming standards to be set up in inactive or simulated mode (where they will not interfere with current activity) and validated by this report.

For each data set reported, the reason for the naming violation is given. These reasons are:

TOO MANY QLF	The number of qualifiers in the data set name exceeds the MAXQLF parameter in the rule. For example, this message would be produced for data set GLYTD.MASTER.PRODDLY.TRANS.AP.XFER for this rule SET MINQLF=2 MAXQLF=5 DSN3=PROD* INC DSN=GLYTD./ because the maximum qualifiers allowed is 5 and the data set contains 6.
TOO FEW QLF	The number of qualifiers in the data set name is less than the MINQLF parameter in the rule. For example, this message would be produced for data set GLYTD.MASTER.PRODDLY for this rule SET MINQLF=4 MAXQLF=6 DSN3=PROD* INC DSN=GLYTD./ because the minimum qualifiers allowed is 4 and the data set contains 3.
QLF #n INVALID	The nth qualifier in the data set name does not conform to the name mask in the DSNn parameter in the rule. For example, this message would be produced for data set GLYTD.MASTER.TESTDLY.TRANS for this rule SET MINQLF=3 MAXQLF=5 DSN3=PROD* NC DSN=GLYTD./ because the third qualifier must begin with PROD.

Note that although the DSN report uses pool definitions, it does not use the DASD POOL function. The report finds the pool definition in SMPOOLxx that contains the volume on which a data set is resident. If the volume is not defined in a pool, the report-only pseudo-pool UNDEFIN is *assigned* to the data set.

The DFHSM migration control data set (MCDS) is required if migrated data sets are to be included in the report. If the DD name MCDS is not in the JCL, migrated data sets (ML1 or ML2) are not included. Omitting the MCDS data set has the same effect as specifying EXCLUDE MIGRATED DS = YES.

Warning! Many of the MAINVIEW SRM selection parameters are not available to the DSNCHECK rule list during report generation. For example, job execution-time parameters, such as job name and DD name, are valid for the report job only and thus are not really applicable to any pooling rules that may refer to such parameters. The selection parameters that are available to the DSNCHECK rule list for the DSN report are:

- DSN—Data set name
- DSNn—Data set name qualifier 1-8
- HLQ—Data set name high-level qualifier
- LLQ—Data set name low-level qualifier
- NQUAL—Number of qualifiers in data set name

Rule list entries which select on other parameters (for example, UNIT or DSNTYPE) *will not be considered for matching*. See “Filter and Rule Lists” on page 4-13.

Card generation is available with the data set name violation report. If card generation is requested, data sets that appear on the report will also cause one or more control cards to be written to a separate data set. These cards can be JCL or control cards for other programs, which will cause some action to be taken on the data sets with naming standards violations.

Example

REPORT TYPE=DSN	requests a data set name violation report
INCLUDE DSN = EMP./	covering all data sets that begin with EMP
GENERATE CARDS	requests generation of control cards to the
DD=CARDOUT	data set on the DD statement CARDOUT
ALTER &DSN -	defines the card image output.
NEWNAME(&DSN.NAMERR)	Each occurrence of the variable &DSN will be replaced by the data set name of a data set on the report.

The following control cards are written to the data set identified by DD name CARDOUT:

```

ALTER EMP.PRO330.MACLIB -
NEWNAME(EMP.PRO330.MACLIB.NAMERR)
ALTER EMP.PRO330.PARMLIB -
NEWNAME(EMP.PRO330.PARMLIB.NAMERR)
ALTER EMP.PRO330.TESTLIB -
NEWNAME(EMP.PRO330.TESTLIB.NAMERR)
ALTER EMP.PRO330.INSTJCL -
NEWNAME(EMP.PRO330.INSTJCL.NAMERR)
ALTER EMP.PRO330.LINKDECK -
NEWNAME(EMP.PRO330.LINKDECK.NAMERR)

```

These control cards can be input to IDCAMS to rename these data sets, requiring the owners to rename the data sets if the data sets are to be used again. (If the DSNCHECK function is active, all renames will be forced to comply with the naming standards.

Table 5-3 Field List for the Data Set Name Violation Report

Column Heading	Description
DATASET-NAME	Name of pool or storage group, volume, and data set by which report is organized.
ML	Migration level of data set in violation of a naming standard.
REASON	Reason in violation of naming standard.
LRECL	Record length of data set in violation of a naming standard.
BLKL	Block size of data set in violation of a naming standard.
RECFM	Record format of data set in violation of a naming standard.
DSORG	Data set organization of data set in violation of a naming standard.
SIZE	Size of data set in violation of a naming standard.
CREATED	Creation date of data set in violation of a naming standard.
LASTREF	Date last referenced of data set in violation of a naming standard.

Figure 5-3 DSN Violation Report

```
=====
DSN VIOLATION REPORT          BMC SOFTWARE          DATE: 22/01/1998  TIME: 08:22  PAGE: 3
DATASET-NAME                  ML  REASON                  LRECL/BLKL /RECFM/DSORG  SIZE      CREATED    LASTREF
=====
POOL : BMCWRK
=====
VOLUME: WORK01  MODEL: 3380-E  POOL: BOOWRK
-----
BOO.SV.SMFLIB2          1  TOO FEW QLF          --- /23408/FB /PO          <1 MB    08/02/94    11/01/1998
-----
SUMMARY FOR WORK01
TOTAL NUMBER OF DS      = 37
TOTAL SIZE OF DS        = 13 MB
NUMBER OF VIOLATIONS    = 0
TOTAL NUMBER OF MIGRATED DS      = 29
TOTAL SIZE OF MIGRATED DS        = 63 MB
NUMBER OF VIOLATIONS IN ML1/ML2 = 1
-----
VOLUME: WORK02  MODEL: 3380-E  POOL: BOOWRK
-----
BOO.SV.MACLIB          0  QLF #3 INVALID          80/ 6160/FB /PO          9 MB    03/01/1998    21/01/1998
BOO.SV.PARMLIB          0  QLF #3 INVALID          80/23360/FB /PO          2 MB    16/01/1998    21/01/1998
BOO.SV.XREF             1  TOO FEW QLF          --- / 3600/VBA /PS          <1 MB    21/01/1998    10/02/1998
-----
SUMMARY FOR WORK02
TOTAL NUMBER OF DS      = 19
TOTAL SIZE OF DS        = 78 MB
NUMBER OF VIOLATIONS    = 2
TOTAL NUMBER OF MIGRATED DS      = 73
TOTAL SIZE OF MIGRATED DS        = 110 MB
NUMBER OF VIOLATIONS IN ML1/ML2 = 1
-----
SUMMARY FOR POOL BMCWRK
TOTAL NUMBER OF DS      = 56
TOTAL SIZE OF DS        = 92 MB
NUMBER OF VIOLATIONS    = 2
TOTAL NUMBER OF MIGRATED DS      = 102
TOTAL SIZE OF MIGRATED DS        = 173 MB
NUMBER OF VIOLATIONS IN ML1/ML2 = 2
=====
```

Data Set Size Report

The data set size report displays the size distribution of selected data sets.

Organization

The report is organized by pool, size, and migration level. Selected data sets are grouped by pool first; within each pool, data sets are grouped by size, based on user-defined parameters. Within each size bracket, data sets are grouped by migration level.

Both the number of data sets and the total size of data sets are given, by count, and by percentage. Cumulative totals are also reported.

Utility

This report shows the distribution of data sets within a pool by size; it also displays sizes by migration level. Migrating larger data sets to less costly storage is generally cost-effective and can improve DASD space utilization. The data set size report can be used to adjust migration periods for data sets and pools, and for indications of appropriate management class definitions. It can be used as an indication of short-term space requirements. By using appropriate selection parameters, size distribution can also be examined by data set name, by volume, and by storage group.

Usage Notes

A selection by data set name or volume will report all pools and storage groups containing those resources. Selection by pool will report only on specified pools (storage groups will not be included).

This report allows user definition of the size brackets by the STEP action parameter, as follows:

DEFINE STEP = (start size, step size, number of steps)

where:

The *start size* defines the lower limit of the report. Data sets below this size are excluded from the report. This number is in megabytes.

The *step size* defines the span of each report step in megabytes.

The *number of steps* defines the number of detail steps in the report. One step is added to this figure, to summarize all data sets above the topmost step; for example:

DEFINE STEP = (2, 10, 5) organizes the data set size report into 5 steps of 10 megabytes each, with a final step for all data sets larger than 52 MB, and with the lowest step starting at 2 MB. The report steps are:

2-11 MB
 12-21 MB
 22-31 MB
 32-41 MB
 42-51 MB
 >52 MB

If the start size is non-zero, any data sets smaller than the starting size are not included in the report. However, all data sets larger than the highest step are summarized into an automatically added final step.

The DFHSM migration control data set (MCDS) is required if migrated data sets are to be included in the report. If the DDname MCDS is not in the JCL, migrated data sets (ML1 or ML2) are not included. Omitting the MCDS data set has the same affect as specifying EXCLUDE MIGRATED DS = YES.

Table 5-4 Field List for the Data Set Size Report

Column Heading	Description
POOL or STORAGE GROUP	Name of pool or storage group by which report is organized.
START - END	Data sets grouped by user-defined size parameters.

Table 5-4 Field List for the Data Set Size Report

Column Heading	Description
NUMBER OF DS	Columns that detail the number of data sets in each size/migration bracket.
NUMBER	Number of data sets in the corresponding size/migration bracket.
% TOTAL	The proportion of the data sets in a single size range to the total data sets for the migration level.
CUMMULATIVE	The total of all data in the column to the left and above.
SIZE OF DS	Columns that detail the size of the total data sets in each size/migration bracket.
SIZE	Size of data sets in the corresponding size/migration bracket.
%TOTAL	The proportion of the data sets in a single size range to the total data sets for the migration level.
CUMMULATIVE	The total of all data in the column to the left and above.
TOTAL (ML--+ML1+ML2)	Show the total of all three migration levels in each size bracket.

Figure 5-4 Data Set Size Report

=====																					
DATA SET SIZE REPORT				BMC SOFTWARE				DATE: 23/01/1998 TIME: 15:02 PAGE: 4													
=====																					
POOL : BMCWRK																					
START -		END		NUMBER		% TOTAL		NUMBER OF DS		CUMMULATIVE		SIZE		% TOTAL		SIZE OF DS		CUMMULATIVE		TOTAL (ML0+ML1+ML2)	
0 MB-	4 MB	ML0	532	89 %	532	89 %	240 MB	15 %	240 MB	15 %	1023	89 %									
		ML1	330	90 %	330	90 %	314 MB	28 %	314 MB	28 %											
		ML2	161	85 %	161	85 %	159 MB	21 %	159 MB	21 %											
5 MB-	9 MB	ML0	27	4 %	559	93 %	189 MB	12 %	430 MB	28 %	48	4 %									
		ML1	13	3 %	343	94 %	89 MB	8 %	404 MB	36 %											
		ML2	8	4 %	169	89 %	58 MB	7 %	218 MB	29 %											
10 MB-	14 MB	ML0	8	1 %	567	95 %	94 MB	6 %	525 MB	34 %	27	2 %									
		ML1	12	3 %	355	97 %	147 MB	13 %	552 MB	49 %											
		ML2	7	3 %	176	93 %	80 MB	11 %	298 MB	40 %											
> 15 MB		ML0	28	4 %	595	100 %	1006 MB	65 %	1531 MB	100 %	50	4 %									
		ML1	9	2 %	364	100 %	568 MB	50 %	1120 MB	100 %											
		ML2	13	6 %	189	100 %	431 MB	59 %	730 MB	100 %											
TOTAL FOR BMCWRK		ML0	595				1531 MB				1148										
		ML1	364				1120 MB				3382 MB										
		ML2	189				730 MB														
=====																					

Future Construct Report

The Future Construct Report displays the DFSMS constructs (storage class, data class, management class, and storage group) that would be assigned to data sets by the current ACS routines and/or MAINVIEW SRM SMSACS_{xx} rule lists.

Organization

The report is organized by DFSMS construct: all storage groups are reported, followed by all storage classes, then all data classes, and finally all management classes. Within each instance of each class, all data sets assigned that particular construct are reported.

If a data set has no assignment for a DFSMS data class, management class, or storage group, the data set detail line will show dashes in the construct column, and the data set will be reported in the ***NONE*** category for that class. If a data set is not assigned a storage class by the ACS routines and/or SMSACS_{xx} rule list, the data set will not be included on this report.

Utility

The Future Construct Report provides an overview of the assignment of DFSMS constructs to data sets that would be made with the current ACS routines and/or MAINVIEW SRM SMSACS_{xx} rule lists. This can be used to assess the effectiveness of ACS routines/rule lists in classifying data sets. It can also reveal data sets that would be assigned inappropriate DFSMS constructs; data class assignment inconsistencies in particular will stand out, as will any storage class/group assignments based on size.

By using the control card generation facility to build IDCAMS ALTER commands, this report can assign DFSMS storage, management, and data classes to any desired group of existing data sets.

Usage Notes

The MAINVIEW SRM subsystem must be executing to run the Future Construct Report.

Each data set selected for this report will appear four times: once in a storage group, once in a storage class, once in a data class, and once in a management class.

As this report covers real and *simulated* DFSMS-managed data sets, selection by pool is not supported; selection by storage group should be used instead.

Warning! If a data set is not assigned a storage class by the ACS routines and/or the SMSACSSC rule list, the data set is not included on this report, even though it may be assigned a data class, management class, or storage group. (Note, however, that the SMSMANAGED action parameter of the SMSACSTE function has no effect on this report.)

The DFHSM migration control data set (MCDS) is required if migrated data sets are to be included in the report. If the DDname MCDS is not in the JCL, migrated data sets (ML1 or ML2) are not included. Omitting the MCDS data set has the same effect as specifying EXCLUDE MIGRATED DS = YES.

Warning! Many of the MAINVIEW SRM selection parameters are not available to the SMSACSxx functions filter and rule lists during report generation. For example, job execution-time parameters, such as job name and DD name, are valid for the report job only and thus are not really applicable to any SMSACSxx filters or rules that may refer to such parameters. The selection parameters that are available to the SMSACSxx filter and rule lists are:

- DSN—Data set name
- DSNn—Data set name qualifier 1-8
- HLQ—Data set name high-level qualifier
- LLQ—Data set name low-level qualifier
- NQUAL—Number of qualifiers in data set name
- DSORG—Data set organization
- SIZE—Data set size

Filter and rule list entries that select on other parameters (for example, SYSID or DSTYPE) ***will not be considered for matching***. See “Filter and Rule Lists” on page 4-13.

The MAINVIEW SRM SMSACSxx functions can be in any mode (filter list MODE=ACT/SIM/INACT) for the purpose of this report. MODE=SIM or INACT allows the Future Construct Report to be used to examine the effects of changing DFSMS constructs without affecting the current environment; for example:

```
SMFLSTxx member for SMSACSSC
SET  MODE=INACT
INCLUDE DSN=RECV/
```

SMSACSSC is inactive for all data sets with names beginning with RECV. For anything other than the Future Construct Report, SMSACSSC takes no action at all; however, for the report, the storage class assignment in the applicable rule for SMSACSSC shows.

(Note, however, that deactivating the function in the SMFUNC_{xx} member by specifying ACTIVE=NO prevents the function from executing with the report.)

You may also wish to use the job name of the EasySMS FCR report job to restrict specific rules in the SMSACS_{xx} functions to the reporting job only. This can be done by putting the job name in an INCLUDE statement for every SMSACS_{xx} rule; for example:

SMSACSSC rule list

```
SET  STORCLAS=MAXVSAM
INCLUDE JOB=FCRRPT  DSORG=VS  SIZE>50MB
SET  STORCLAS=CICSTRNS
INCLUDE JOB=FCRRPT  DSN2=CICS/  LLQ=TRANSTRY
```

Since the JOB parameter is non-valued for the EasySMS reports, these rules will ignore the job name when an EasySMS report is running, but match on the job name under normal conditions. Effectively, these rules will be applied only to a job executing an EasySMS report, thus restricting SMSACS_{xx} functionality to reporting. When DFSMS is implemented and the rules are to be applied to the whole installation, the JOB=FCRRPT should be removed (or changed to JOB=/). Alternatively, a variable could be defined that initially contains only the job name FCRRPT; the variable would be referenced in the JOB= parameter. When ready for wider application of the SMSACS_{xx} functions, the variable definition would be changed to include all applicable jobs.

Another method of preventing wide-spread application of SMSACS_{xx} rules during a reporting-only phase is to set a null storage class in the SMSACSSC rule list for all jobs other than the reporting job; for example:

SMSACSSC rule list

```
SET  STORCLAS=MAXVSAM
INCLUDE  JOB=FCRRPT  DSORG=VS  SIZE>50MB
SET  STORCLAS=CICSTRNS
INCLUDE  JOB=FCRRPT  DSN2=CICS/  LLQ=TRANSTRY
```

The control card generation facility is available with this report. It can be used to assign SMS constructs. To incrementally bring groups of data sets under DFSMS control, the MAINVIEW SRM SMSACS xx rule lists can be set up to select only desired data sets, and the Future Construct report can be run to generate ALTER commands to change the DFSMS classes for those data sets.

Note that the storage group cannot be changed by an ALTER command; if the storage group needs to be changed, DFHSM migrate and recall (HMIGRATE and HRECALL) control cards should be generated. The DFHSM recall process will go through the ACS routines, assigning all classes and placing the data set in the ACS-selected storage group.

SMSACSSC rule list**Description**

SET	STORCLAS=DBCRT INCLUDE DSN=HR*.MSTR*./ INCLUDE DSN=HR*.*.TRAN/	assigns storage class DBCRT to all HR master and transaction files
-----	--	---

SMSACSMC rule list

SET	MGMTCLAS=SAV180 INCLUDE DSN=HR*.MSTR*./	assigns management class SAV180 to all HR master files, and
SET	MGMTCLAS=SAV30 INCLUDE DSN=HR*.*.TRAN/	SAV30 to all HR transaction files

SMSACSDC rule list

SET	SET DATACLAS=VSAM INCLUDE DSN=HR*.MSTR*./ DSORG=V	X assigns data class VSAM to all VSAM HR master files
-----	---	--

FCR specifications**Description**

REPORT TYPE=FCR INCLUDE DSN=HR*.MSTR*./ INCLUDE DSN=HR*.*.TRAN/ GENERATE CARDS DD=CARDOUT ALTER &DSN - STORAGECLASS(&SCNAME) - DATACLASS(&DCNAME) - MANAGEMENTCLASS(&MCNAME)	Select all master files and transaction files for the HR applications. For each selected data set, generate an ALTER command to change the storage class, data class, and management class.
---	--

The card images generated by this specification would look like:

```

ALTER HRDLY.MSTR004.CLSCODE.UPDATES  -
      STORAGECLASS (FASTREAD)  -
      DATACLASS (VSAMKEY)  -
      MANGEMENTCLASS (M30DAYS)
ALTER HRDLY.GRDLVL.TRANA10  -
      STORAGECLASS (DBSTD)  -
      DATACLASS (CARDIMG)  -
      MANAGEMENTCLASS (M90DAYS)

```

Table 5-5 Field List for the Future Construct Report

Column Heading	Description
DATASET-NAME	Name of pool, volume, and data set by which report is organized.
SC	Storage class of the data set; dashes are displayed in this field if an SMS-managed data set has been uncataloged. Such data sets are also reported in a storage class report category of *NONE*.
MC	Management class of the data set; dashes are displayed in this field if an SMS-managed data set has been uncataloged. Such data sets are also reported in a management class report category of *NONE*.
DC	Data class of the data set; dashes are displayed in this field if an SMS-managed data set has been uncataloged. Such data sets are also reported in a data class report category of *NONE*.
SG	Storage group of the data set; dashes are displayed in this field if an SMS-managed data set has been uncataloged. Such data sets are also reported in a storage group report category of *NONE*.
LRECL	Record length of data set.
BLKL	Block size of data set.
RECFM	Record format of data set.
DSORG	Data set organization of data set.
SIZE	Size of data set.

Figure 5-5 Future Construct Report

```
=====
FUTURE CONSTRUCT REPORT                      BMC SOFTWARE                      DATE: 01/04/1998  TIME: 13:02  PAGE:   3
DATASET-NAME                                SC      MC      DC      SG      LRECL/BLKL /RECFM/DSORG  SIZE
=====
STORAGE GROUP: STG1
-----
BOOSL.CNTCT.BASE                          STC1     MAN1     ---     STG1     32767/ 4096/VBS  /PS    <1 MB
BOOVRL.DLYTRN.HND                         STC1     MAN1     ---     STG1     133/23408/FB    /PO    <1 MB
-----
SUMMARY FOR STG1          TOTAL NUMBER OF DS =      2          TOTAL SIZE OF DS =      1 MB

STORAGE CLASS: STC1
-----
BOOSL.CNTCT.BASE                          STC1     MAN1     ---     STG1     32767/ 4096/VBS  /PS    <1 MB
BOOVRL.DLYTRN.HND                         STC1     MAN1     ---     STG1     133/23408/FB    /PO    <1 MB
-----
SUMMARY FOR STC1          TOTAL NUMBER OF DS =      2          TOTAL SIZE OF DS =      1 MB

DATA CLASS: *NONE*
-----
BOOSL.CNTCT.BASE                          STC1     MAN1     ---     STG1     32767/ 4096/VBS  /PS    <1 MB
BOOVRL.DLYTRN.HND                         STC1     MAN1     ---     STG1     133/23408/FB    /PO    <1 MB
-----
SUMMARY FOR *NONE*        TOTAL NUMBER OF DS =      2          TOTAL SIZE OF DS =      1 MB

MANAGEMENT CLASS: MAN1
-----
BOOSL.CNTCT.BASE                          STC1     MAN1     ---     STG1     32767/ 4096/VBS  /PS    <1 MB
BOOVRL.DLYTRN.HND                         STC1     MAN1     ---     STG1     133/23408/FB    /PO    <1 MB
-----
SUMMARY FOR MAN1          TOTAL NUMBER OF DS =      2          TOTAL SIZE OF DS =      1 MB
=====
```

Future Pooling Report

The future pooling report determines the MAINVIEW SRM pools that would be defined if all pooling definitions were active. The report displays projected pools based on:

- DASDPOOL rules that assign data sets to pools
- SMPPOOLxx pool definitions (if any)

Organization

The report is organized by pool. Pools are reported in alphabetical order. Selected data sets are grouped into possible pools based on the assignments made by the DASDPOOL rule list in use by the executing version of MAINVIEW SRM.

Possible data set movement between pools is shown; each pool displays a from data set count and a to data set count. The from count is composed of those data sets that are resident on volumes defined in one pool, but assigned to a different pool by DASDPOOL. The to count is composed of those data sets assigned to a pool by DASDPOOL, but resident on volumes that are part of another pool. (The total from and to data set movement always adds up to zero.)

Data sets resident on volumes not defined in a pool are reported from a report-only pseudo-pool named UNDEFIN. All volumes not assigned to a pool are also reported as part of UNDEFIN.

Utility

This report shows the distribution of data sets to pools based on the current DASDPOOL rule list and SMPOOLxx definitions (if any). It shows how the MAINVIEW SRM pools would look if pooling were implemented with the current definitions in DASDPOOL and SMPOOLxx. This allows trial activation of pool definitions, without actually assigning data sets or volumes to pools, or moving data sets from one volume to another. Data set assignments may be set up and changed as required to define pools of the right size and composition. When pool definitions are satisfactory, all pool definitions and assignments can be activated.

Usage Notes

The MAINVIEW SRM subsystem must be executing to run the Future Pooling Report. However, the pooling functionality (SMPOOLxx and DASDPOOL) does not have to be active. DASDPOOL may be in inactive or simulate mode. To project pool composition, DASDPOOL rules should exist. Pool definitions in the current SMPOOLxx are used.

Selection of resources to include in the report is accomplished from two sources. The report control cards allow selection based on data set name, volume ID, pool, and so on. The resources selected by the report control cards are then processed by the resource selection parameters in the DASDPOOL rule list. (The DASDPOOL filter list selection is not invoked.)

Note that, although the future pooling report displays data set movement (to and from pools), no changes are made; pools are reported as they would exist if the current pooling definitions were activated.

The future pooling report does not include any data sets or volumes that are under DFSMS management. Selection by storage group is not available.

Pools included in the report come from both DASDPOOL and SMPOOLxx, and are not required to be fully defined. That is, the report does not require that DASDPOOL-assigned pools be defined in SMPOOLxx. DASDPOOL assignments to non-existent pools create a pool for purposes of the report. This undefined pool is reported as if it were defined in SMPOOLxx; it shows a pool size (the size of all data sets assigned to it by DASDPOOL) in the DS MOVED TO POOL report field, but does not show any assigned volumes.

Similarly, pools that are currently defined in SMPOOL_{xx}, but have no data set assignments by DASDPOOL are normally reported. Defined pools may or may not show data set counts and sizes, depending on DASDPOOL assignments and volume composition.

All possible pools are included in the report, even if selection is by specific pool. However, a pool will not be reported if there are no data sets selected which would affect the pool; that is, if there are no data sets selected for reporting which would be assigned to the pool or which already exist on volumes in the pool.

For each pool, the following categories of information are displayed:

- **Data set composition**

The number of data sets that would reside in the pool, their total and average sizes, and a breakdown of size into allocated, used, and idle space are reported. These figures show the total size of the pool for the current DASDPOOL assignments, including data sets resident on pool volumes that are unassigned by DASDPOOL.

- **Volume composition**

The number of volumes that are defined in the pool and the total space on those volumes are reported. If the pool does not exist (undefined in SMPOOL_{xx} but data set assignments made in DASDPOOL), these figures are zero.

- **Data set movement**

The number of data sets that must be moved to and from the pool to comply with the current definitions is reported. The to movement reflects data sets assigned to the pool by DASDPOOL which are currently resident on a volume in another pool. The from movement reflects data sets resident on pool volumes, but assigned to another pool by DASDPOOL. If the pool does not exist (undefined in SMPOOL_{xx} but assigned data sets by DASDPOOL), the from movement is zero.

The DFHSM migration control data set (MCDS) is required if migrated data sets are to be included in the report. If the DDname MCDS is not in the JCL, migrated data sets (ML1 or ML2) are not included. Omitting the MCDS data set has the same effect as specifying EXCLUDE MIGRATED DS = YES.

Warning! Many of the MAINVIEW SRM selection parameters are not available to the DASDPOOL rule list (invoked for processing the Future Pooling Report) during report generation. For example, job execution-time parameters, such as job name and DD name, are valid for the report job only and thus are not really applicable to any pooling rules that may reference such parameters. The selection parameters that are available to the DASDPOOL rule list for the FPR are:

- DSN—Data set name
- DSNn—Data set name qualifier 1-8
- HLQ—Data set name high-level qualifier
- LLQ—Data set name low-level qualifier
- NQUAL—Number of qualifiers in data set name

Rule list entries that select on other parameters (for example, UNIT or DSNTYPE) *will not be considered for matching*. See “Filter and Rule Lists” on page 4-13.

Table 5-6 Field List for the Data Set Size Report

Column Heading	Description
POOL	Name of pool.
NUMBER OF DS	Number of data sets contained in pool.
TOTAL DS SIZE	Total size of data sets in the pool.
AVERAGE DS SIZE	Projected size of data sets if moved.
NUMBER OF VOLUMES	Number of volumes defined in the pool.
TOTAL SPACE	Total space occupied by volumes in the pool.
ALLOC. SPACE	Allocated space for the pool.
USED SPACE	Space used by the pool.
IDLE SPACE	Allocated but unused space for the pool (data sets with free space).
DS MOVED TO POOL	Data sets moved to the pool (changes in data set membership).
DS MOVED FROM POOL	Data sets moved from the pool (changes in data set membership).

Figure 5-6 Future Pooling Report

FUTURE POOLING REPORT				BMC SOFTWARE		DATE: 25/01/1998		TIME: 14:13		PAGE: 3	
=====											
POOL : EMPHSM											

NUMBER OF DS	:	2977	NUMBER OF VOLUMES	:	0	ALLOC. SPACE	:	3499 MB	DS MOVED TO POOL	:	2977 (3499 MB)
TOTAL DS SIZE	:	3499 MB	TOTAL SPACE	:	0 MB	USED SPACE	:	3172 MB	DS MOVED FROM POOL	:	0 (0 MB)
AVERAGE DS SIZE	:	1 MB				IDLE SPACE	:	327 MB			

POOL : EMPPRD											

NUMBER OF DS	:	1005	NUMBER OF VOLUMES	:	3	ALLOC. SPACE	:	2348 MB	DS MOVED TO POOL	:	615 (1229 MB)
TOTAL DS SIZE	:	2348 MB	TOTAL SPACE	:	3606 MB	USED SPACE	:	1573 MB	DS MOVED FROM POOL	:	713 (2057 MB)
AVERAGE DS SIZE	:	2 MB				IDLE SPACE	:	775 MB			

POOL : EMPWRK											

NUMBER OF DS	:	1651	NUMBER OF VOLUMES	:	5	ALLOC. SPACE	:	6612 MB	DS MOVED TO POOL	:	553 (2012 MB)
TOTAL DS SIZE	:	6612 MB	TOTAL SPACE	:	6010 MB	USED SPACE	:	4559 MB	DS MOVED FROM POOL	:	960 (2069 MB)
AVERAGE DS SIZE	:	4 MB				IDLE SPACE	:	2053 MB			

POOL : SYSTEM											

NUMBER OF DS	:	628	NUMBER OF VOLUMES	:	5	ALLOC. SPACE	:	3790 MB	DS MOVED TO POOL	:	312 (1445 MB)
TOTAL DS SIZE	:	3790 MB	TOTAL SPACE	:	6010 MB	USED SPACE	:	1873 MB	DS MOVED FROM POOL	:	111 (796 MB)
AVERAGE DS SIZE	:	6 MB				IDLE SPACE	:	1917 MB			

POOL : UNDEFIN.											

NUMBER OF DS	:	0	NUMBER OF VOLUMES	:	5	ALLOC. SPACE	:	0 MB	DS MOVED TO POOL	:	0 (0 MB)
TOTAL DS SIZE	:	0 MB	TOTAL SPACE	:	6010 MB	USED SPACE	:	0 MB	DS MOVED FROM POOL	:	2673 (3263 MB)
AVERAGE DS SIZE	:	0 MB				IDLE SPACE	:	0 MB			

Multiple Volume Report

The multiple volume report displays all data sets that have extents on more than one volume.

Organization

The report is organized by data set. Within each data set, volumes are listed in order of occurrence in the data set’s allocation.

Utility

Data sets allocated across multiple volumes are frequently necessary for space or performance reasons. However, multiple volume support adds overhead, and not all data sets allocated on multiple volumes may need to be multi-volume.

The multiple volume report identifies multi-volume data sets. Data set characteristics are reported to aid in determining the method of moving data sets to a single volume, should this be desired. Data set size, which is also needed for single volume consolidation, is shown for each volume and for total data set.

Usage Notes

The MAINVIEW SRM subsystem must be executing to run the multiple volume report.

While data set selection by volume and pool is supported, it is not recommended. If a volume is omitted in the selection parameters, any data sets with extents or copies on that volume are not reported, even though those data sets may exist on other volumes. Data set selection for this report should be by the DSN parameter.

The DFHSM migration control data set (MCDS) is required if migrated data sets are to be included in the report. If the DDname MCDS is not in the JCL, migrated data sets (ML1 or ML2) are not included. Omitting the MCDS data set has the same effect as specifying EXCLUDE MIGRATED DS = YES.

Table 5-7 Field List for the Multiple Volume Report

Column Heading	Description
DATASET-NAME	Name of pool or storage group, volume, and data set by which report is organized.
TYPE	Data set type. M=cataloged; U=uncataloged.
VOLSER	Volumes on which data set resides.
LRECL	Record length of data set.
BLKL	Block size of data set.
RECFM	Record format of data set.
DSORG	Data set organization of data set.
SIZE	Size of data set.

Figure 5-7 Multi Volume Report

```

MULTI VOLUME REPORT
DATASET-NAME          TYP  VOLSER          BMC SOFTWARE          DATE: 31/01/1998  TIME: 11:40  PAGE: 3
=====
AP5A.ACCUM.YTD.TRANS  M    EMP103          3120/ 3120/FB  /PS    26 MB    30/01/1998    21/02/1998
                        EMP021          3120/ 3120/FB  /PS    15 MB    30/01/1998    21/02/1998
                        EMP056          3120/ 3120/FB  /PS    11 MB    30/01/1998    21/02/1998
-----
SUMMARY FOR AP.ACCUM.YTD.TRANS          TOTAL NUMBER OF VOLUMES = 3          TOTAL SIZE OF DS = 52 MB

DXUWW7.MPER.VSAM.DATA  M    EMP005          / 4096/U      /VS    12 MB    14/01/1998    --/--/--
                        EMP011          / 4096/U      /VS    43 MB    14/01/1998    24/02/1998
-----
SUMMARY FOR DXUWW7.MPER.VSAM.DATA          TOTAL NUMBER OF VOLUMES = 2          TOTAL SIZE OF DS = 55 MB
-----
GLOBAL REPORT SUMMARY          TOTAL NUMBER OF DS = 2          TOTAL SIZE OF DS = 107 MB

```

Data Sets Not Supported by DFSMS Report

The Data Sets Not Supported By DFSMS Report identifies data sets that will impede the transition to a DFSMS environment: ISAM data sets, uncataloged data sets, unmovable data sets, and data sets that may be incorrectly cataloged.

Organization

The report is organized by pool and volume. Pools are reported in alphabetical order. Within each pool, data sets are listed by volume of residency. The pool of residency is determined by the volume assignments in the SMPPOOLxx member of the currently-executing version of MAINVIEW SRM.

Tip: Data sets resident on volumes not defined in a pool are reported in a report-only pseudo-pool named UNDEFIN.

Utility

In general, DFSMS conversion is simplest when performed by volume. Data sets that are not supported by DFSMS need to be identified and then removed from the volume.

This report shows data sets which present problems in converting to DFSMS. The four problem areas identified by the report are:

- ISAM data sets are not supported by DFSMS. The report reason code is ISAM.
- Unmovable data sets are not supported by DFSMS. The report reason code is UNMOVABL.
- Uncataloged data sets are not supported by DFSMS. The report reason code is UNCATLG.
- Incorrectly cataloged data sets are similar to uncataloged data sets. The data set reported is cataloged, but on a different volume. Both an uncataloged and a cataloged copy exist. The report reason code is WRGCATL (wrong catalog).

The control card generation facility is available for use with this report. One or more card images can be generated for each reported data set; these cards can be input to a utility to move the data set to a different volume, delete the data set, catalog the data set, and so on.

Note: Within the control card generation facility, there is no way to specify different actions for different reason codes; that is, UNCATLG data sets must be treated the same as UNMOVABL data sets.

Usage Notes

The MAINVIEW SRM subsystem must be executing to run this report. For reporting by pool, the pooling definitions in SMPOOLxx must be present; however, pool definitions are not required, nor is EasyPOOL required. DASDPOOL specifications do not affect this report.

Example

Using the control card generation facility, move NSR-identified data sets to the temporary volume WORK01.

The following JCL will execute the control card generation facility in conjunction with the NSR report.

NSR Specification	Description
REPORT TYPE=NSR	requests a data set not supported by DFSMS report for all data sets
INCLUDE POOL=PROD12	on volumes in pool PROD12
GENERATE CARDS DD=CARDOUT	requests generation of control cards to the data set on the DD statement CARDOUT
COPY DATASET (INCLUDE (&DSN)- LOGINDYNAM (&VOLSER) - OUTDDNAM (DD1) - RECATALOG(*) - DELETE - PURGE - ALLDATA (*)	generates DFDSS copy control cards The data set name and the data set's volume ID are substituted into the card images. The following JCL is used: //STEP10 EXEC PGM=ADDRSSU,REGION=0M //SYSPRINT DD SYSOUT=* //DD1 DD UNIT=SYSDA, // VOL=SER=WORK01, // SPACE=(TRK,(1,1)) //SYSIN DD DSN=cardout.data.set,DISP=OLD Note that unmovable data sets may or may not be successfully moved, and that the recatalog may not succeed.

Table 5-8 Field List for the Data Sets Not Supported by DFSMS Report (Part 1 of 2)

Column Heading	Description
DATASET-NAME	Name of pool, volume, and data set by which report is organized.
ML	Migration level of data set.

Table 5-8 Field List for the Data Sets Not Supported by DFSMS Report (Part 2 of 2)

Column Heading	Description
REASON	Reason in violation of DFSMS standards.
LRECL	Record length of data set in violation of a DFSMS standards.
BLKL	Block size of data set in violation of a DFSMS standards.
RECFM	Record format of data set in violation of a DFSMS standards.
DSORG	Data set organization of data set in violation of a DFSMS standards.
SIZE	Size of data set in violation of a DFSMS standards.
CREATED	Creation date of data set in violation of a DFSMS standards.
LASTREF	Date last referenced of data set in violation of a DFSMS standards.

Figure 5-8 DFSMS Not Supported Report

```

=====
DFSMS NOT SUPPORTED REPORT
DATASET-NAME          ML  REASON          LRECL/BLKL /RECFM/DSORG  SIZE  CREATED  LASTREF
=====
POOL : EMPWRK
-----
VOLUME: WORK01  MODEL: 3380-E  POOL: EMPWRK
-----
EMPEBH.SPFTMP0.CNTL      0  WRGCATL      80/  800/FB  /PS  <1 MB  21/12/1996  21/12/1997
EMPEBH2.PERCENT          0  UNCATLG      /  /-  /--  <1 MB  30/03/1997  --/--/---
EMPJSM.SORTIN            0  UNCATLG      300/24000/FB /PS  3 MB  14/03/1997  14/03/1997
EMPRKW.TAPE.TEST5        0  WRGCATL      1050/23100/FB /PS  1 MB  31/03/1997  31/03/1997
-----
SUMMARY FOR WORK01      TOTAL NUMBER OF DS = 264      TOTAL NUMBER OF ISAM DS = 0
                        VIOLATIONS = 4      TOTAL NUMBER OF UNMOVABLE DS = 0
                        SIZE OF DS = 4 MB      TOTAL NUMBER OF UNCATLG DS = 2
                                           TOTAL NUMBER OF WRG CATLG DS = 2
-----
VOLUME: WORK02  MODEL: 3380-E  POOL: EMPWRK
-----
EMPTRM.MSTR5B.FILE1      0  UNCATLG      /  /-  /--  <1 MB  22/03/97  --/--/---
EMP.PRO324.LIST.A101      0  WRGCATL      /  /-  /--  <1 MB  21/03/97  --/--/---
EMPCRM.REP67.NSR1        0  UNCATLG      133/13300/FBA /--  <1 MB  04/04/97  --/--/---
SYS2.BUDR11.MMQ2         0  UNMOVABL      255/  255/F  /DA  1 MB  30/07/96  31/07/96
-----
SUMMARY FOR WORK02      TOTAL NUMBER OF DS = 248      TOTAL NUMBER OF ISAM DS = 0
                        VIOLATIONS = 4      TOTAL NUMBER OF UNMOVABLE DS = 1
                        SIZE OF DS = 1 MB      TOTAL NUMBER OF UNCATLG DS = 2
                                           TOTAL NUMBER OF WRG CATLG DS = 1
-----
SUMMARY FOR POOL EMPWRK  TOTAL NUMBER OF DS = 512      TOTAL NUMBER OF ISAM DS = 0
                        VIOLATIONS = 8      TOTAL NUMBER OF UNMOVABLE DS = 1
                        SIZE OF DS = 5 MB      TOTAL NUMBER OF UNCATLG DS = 4
                                           TOTAL NUMBER OF WRG CATLG DS = 3
=====

```


Pool Violation Report

The Pool Violation Report displays all data sets that reside in pools different from those assigned by DASDPOOL. (A *pool violation* is a data set that is resident on a volume in one pool, but is assigned to another pool by the DASDPOOL rule list.)

Organization

The report is organized by pool and volume. Pools are reported in alphabetical order. Within each pool, data sets are listed by volume of residency. The pool of residency is determined by the volume assignments in the SMPOOLxx member of the currently-executing version of MAINVIEW SRM. The rule list of the DASDPOOL function for the currently-executing version of MAINVIEW SRM determines the correct pool for a data set.

Data sets resident on volumes not defined in a pool are reported in a report-only pseudo-pool named UNDEFIN.

Utility

This report shows discrepancies in assigned pools versus residency. It lists each data set that resides in a pool different from the pool assigned to the data set by the DASDPOOL rule list of the executing MAINVIEW SRM. The pool violation report allows monitoring the progress in DFSMS preparation; the report also can reveal inadequate pool definitions and/or assignments to pools.

A data set's appearance on the report suggests one of several actions:

- The data set should be moved to the pool assigned by DASDPOOL
- The DASDPOOL rule should be modified to assign the data set to a different pool (presumably, to the pool in which it currently resides)
- The volume on which the data set resides should be assigned to a different pool by SMPOOLxx

The control card generation facility is available for use with this report. One or more card images can be generated for each reported data set; these cards can be input to a utility to move the data set to a different pool.

Usage Notes

The MAINVIEW SRM subsystem must be executing to run the Pool Violation Report. However, the pooling functionality (SMPOOL $_{xx}$ and DASDPOOL) does not have to be active. DASDPOOL may be in inactive or simulate mode. For the report to be useful, DASDPOOL rules should exist, and pools should be defined in SMPOOL $_{xx}$.

If DASDPOOL assigns a data set to a non-existent pool (undefined in SMPOOL $_{xx}$), the undefined pool shows on the report as a violation, regardless of where the data set currently resides. This allows the report to be used to show the detailed composition (by data set) of a new pool, before the pool is implemented.

Selection of resources to include in the report is accomplished from two sources. The report control cards allow selection based on data set name, volume ID, pool, and so on. The resources selected by the report control cards are then processed by the resource selection parameters in the DASDPOOL rule list. (The DASDPOOL filter list selection is not invoked.)

Note that a data set must be selected by the report control cards *and* the DASDPOOL rule list to appear on the report.

Note that although the Pool Violation Report displays a data set that should be moved to another pool, no changes are made.

The Pool Violation Report does not include any data sets or volumes that are under DFSMS management. Selection by storage group is not available.

The Pool Violation Report also does not include any migrated data sets. Pools that are currently defined in SMPOOL $_{xx}$, but have no data set assignments by DASDPOOL, are not reported.

Warning! Many of the MAINVIEW SRM selection parameters are not available to the DASDPOOL rule list (invoked for processing the Pool Violation Report) during report generation. For example, job execution-time parameters, such as job name and DD name, are valid for the report job only and thus are not really applicable to any pooling rules that may refer to such parameters. The selection parameters that are available to the DASDPOOL rule list for the PVR are:

- DSN—Data set name
- DSNn—Data set name qualifier 1-8
- HLQ—Data set name high-level qualifier
- LLQ—Data set name low-level qualifier
- NQUAL—Number of qualifiers in data set name
- CAT—Catalog name

Rule list entries which select on other parameters (for example, UNIT or DSNTYPE) *will not be considered for matching*. See “Filter and Rule Lists” on page 4-13.

Table 5-9 Field List for the Pool Violation Report

Column Heading	Description
DATASET-NAME	Name of pool, volume, and data set by which report is organized.
DEFINED POOL	Pool assigned by DASDPOOL rule.
LRECL	Record length of data set with pooling violations.
BLKL	Block size of data set with pooling violations.
RECFM	Record format of data set with pooling violations.
DSORG	Data set organization of data set with pooling violations.
SIZE	Size of data set with pooling violations.
CREATED	Creation date of data set with pooling violations.
LASTREF	Date last referenced of data set with pooling violations.

Figure 5-9 Pool Violation Report

```

=====
POOL VIOLATION REPORT                      BMC SOFTWARE                      DATE: 30/03/1998  TIME: 11:20  PAGE: 3
DATASET-NAME                      DEFINED POOL                      LRECL/BLKL /RECFM/DSORG  SIZE  CREATED  LASTREF
=====
POOL : EMPWRK

VOLUME: EMP004  MODEL: 3380-E  POOL: EMPWRK
-----
EMP.PRO330.INSTALL                      EMPPRD                      80/23440/FB  /PO  <1 MB  28/02/1998  28/02/1998
EMP.PRO330.JCLLIB                      EMPPRD                      80/23440/FB  /PO  <1 MB  12/01/1997  30/02/1998
EMP.PRO330.ORIG.SOURCE                  EMPPRD                      /  /-  /--  5 MB  --/--/----  25/02/1998
EMP.PRO330.TESTLIB                      EMPPRD                      /23476/U  /PO  2 MB  22/12/1997  30/02/1998
-----
SUMMARY FOR EMP004                      TOTAL NUMBER OF DS = 37                      NUMBER OF VIOLATIONS = 4
TOTAL SIZE OF DS = 224 MB                      SIZE OF VIOLATIONS = 9 MB

VOLUME: EMP005  MODEL: 3380-E  POOL: EMPWRK
-----
EMP.PRO330.INSTJCL                      EMPPRD                      80/23440/FB  /PS  <1 MB  25/02/1998  28/02/1998
EMP.PRO330.LINKDECK                    EMPPRD                      80/ 800/FB  /PO  <1 MB  03/02/1998  28/02/1998
EMP.PRO330.LISTING                      EMPPRD                      121/23353/FB /PO  66 MB  09/02/1998  28/02/1998
-----
SUMMARY FOR EMP005                      TOTAL NUMBER OF DS = 34                      NUMBER OF VIOLATIONS = 3
1 TOTAL SIZE OF DS = 205 MB                      SIZE OF VIOLATIONS = 67 MB
-----
SUMMARY FOR POOL EMPWRK                  TOTAL NUMBER OF DS = 71                      NUMBER OF VIOLATIONS = 7
TOTAL SIZE OF DS = 430 MB                      SIZE OF VIOLATIONS = 76 MB
=====

```

SMS Construct Report

The DFSMS construct report lists data sets that have been assigned DFSMS constructs (storage class, data class, management class, and storage group).

Organization

The report is organized by DFSMS construct: all storage groups are reported, followed by all storage classes, then all data classes, and finally all management classes. Within each instance of each class, all data sets assigned that particular construct are reported.

If an DFSMS-managed data set has not been assigned an DFSMS construct, the data set detail line shows dashes in the construct column, and the data set is reported in the *NONE* category for that class.

Utility

The DFSMS construct report provides an overview of the assignment of DFSMS constructs to data sets. This can be used to assess the effectiveness of ACS routines and MAINVIEW SRM SMSACSxx rule lists in classifying data sets. It can also reveal data sets that have been assigned inappropriate DFSMS constructs; data class assignment inconsistencies in particular will stand out, as will any storage class/group assignments based on size.

Selecting all data sets (INCLUDE DSN=/) displays all data sets *and* all DFSMS constructs.

Usage Notes

The MAINVIEW SRM subsystem must be executing to run the DFSMS construct report.

All data sets on this report are DFSMS-managed, with one exception. Previously DFSMS-managed data sets that have been uncataloged are included in the report. These data sets have a storage class of dashes in the data set detail line, and are reported in a storage class of *NONE*. This allows easy identification of DFSMS drop-out data sets.

Each data set selected for this report appears four times: once in a storage group, once in a storage class, once in a data class, and once in a management class.

As this report covers DFSMS-managed data sets only, selection by pool is not supported; selection by storage group should be used instead.

The DFHSM migration control data set (MCDS) is required if migrated data sets are to be included in the report. If the DDname MCDS is not in the JCL, migrated data sets (ML1 or ML2) are not included. Omitting the MCDS data set has the same effect as specifying EXCLUDE MIGRATED DS = YES.

Migrated data sets have dashes in the VOLSER column of the report.

The control card generation facility is available with this report. It can be used to reassign DFSMS constructs.

For example, by selecting data sets based on size (“EXCLUDE SIZE < nn”), card images can be generated to change those data sets to a different storage class.

Example

SCR specifications	Description
REPORT TYPE=SCR EXCLUDE SIZE < 50 INCLUDE DSN = /	Select all data sets that are larger than 50 megabytes.
GENERATE CARDS DD=CARDOUT ALTER '&DSN' STORAGECLASS('MAXSIZE')	For each selected data set, generate an ALTER command to change the storage class to MAXSIZE.

The card images generated by this specification would look like:

```
ALTER  'EMP . STG0124C . MSTRCLS '
        STORAGECLASS ( ' MAXSIZE ' )
ALTER  'EMP . PRO331 . SOURCE . HIST '
        STORAGECLASS ( ' MAXSIZE ' )
ALTER  'EMP . BBEMP45 . UPD . TRNYTD '
        STORAGECLASS ( ' MAXSIZE ' )
```

Table 5-10 Field List for the SMS Construct Report (Part 1 of 2)

Column Heading	Description
DATASET-NAME	Name of pool, volume, and data set by which report is organized.
SC	Storage class of the data set; dashes are displayed in this field if an SMS-managed data set has been uncataloged. Such data sets are also reported in a storage class report category of *NONE*.
MC	Management class of the data set; dashes are displayed in this field if an SMS-managed data set has been uncataloged. Such data sets are also reported in a management class report category of *NONE*.

Table 5-10 Field List for the SMS Construct Report (Part 2 of 2)

Column Heading	Description
DC	Data class of the data set; dashes are displayed in this field if an SMS-managed data set has been uncataloged. Such data sets are also reported in a data class report category of *NONE*.
SG	Storage group of the data set; dashes are displayed in this field if an SMS-managed data set has been uncataloged. Such data sets are also reported in a storage group report category of *NONE*.
VOLSER	Volume containing the data set; if the data set has been migrated, this field is filled with dashes.
LRECL	Record length of data set.
BLKL	Block size of data set.
RECFM	Record format of data set.
DSORG	Data set organization of data set.
SIZE	Size of data set.

Figure 5-10 SMS Construct Report

```

=====
SMS CONSTRUCT REPORT          SC      BMC SOFTWARE  DC      SG      DATE: 01/04/1998  TIME: 13:02  PAGE:   3
DATASET-NAME                  MC      VOLSER  LRECL/BLKL /RECFM/DSORG  SIZE
=====
STORAGE GROUP: STG2
-----
EMPVRL.DLYTRN.HND            STC1    MAN1    DATA3  STG2    SMS005    80/ 3120/FB  /PO    <1 MB
EMPVRL.DLYTRN.HND            STC1    ---      DC1      STG2    SMS005    80/23440/FB /PS    <1 MB
-----
SUMMARY FOR STG2              TOTAL NUMBER OF DS =    2              TOTAL SIZE OF DS =    <1 MB

STORAGE CLASS: STC1
-----
EMPVRL.DLYTRN.HND            STC1    MAN1    DATA3  STG2    SMS005    80/ 3120/FB  /PO    <1 MB
EMPVRL.DLYTRN.HND            STC1    ---      DC1      STG2    SMS005    80/23440/FB /PS    <1 MB
-----
SUMMARY FOR STC1              TOTAL NUMBER OF DS =    2              TOTAL SIZE OF DS =    <1 MB

DATA CLASS: DC1
-----
EMPVRL.DLYTRN.HND            STC1    ---      DC1      STG2    SMS005    80/23440/FB /PS    <1 MB
-----
SUMMARY FOR DC1              TOTAL NUMBER OF DS =    1              TOTAL SIZE OF DS =    <1 MB

DATA CLASS: DATA3
-----
EMPVRL.DLYTRN.HND            STC1    MAN1    DATA3  STG2    SMS005    80/ 3120/FB  /PO    <1 MB
-----
SUMMARY FOR DATA3           TOTAL NUMBER OF DS =    1              TOTAL SIZE OF DS =    <1 MB

MANAGEMENT CLASS: *NONE*
-----
EMPVRL.DLYTRN.HND            STC1    ---      DC1      STG2    SMS005    80/23440/FB /PS    <1 MB
-----
SUMMARY FOR *NONE*           TOTAL NUMBER OF DS =    1              TOTAL SIZE OF DS =    <1 MB

MANAGEMENT CLASS: MAN1
-----
EMPVRL.DLYTRN.HND            STC1    MAN1    DATA3  STG2    SMS005    80/ 3120/FB  /PO    <1 MB
-----
SUMMARY FOR MAN1             TOTAL NUMBER OF DS =    1              TOTAL SIZE OF DS =    <1 MB

```

Management Class Synchronization Service

The management class synchronization service identifies data sets whose existing management class is different from the management class that would be assigned by the current ACS routines or SMSACSxx rule lists.

Organization

The management class synchronization service produces no report. The control card generation facility is used with the service to build control cards to change the management class of the selected data sets.

Utility

The management class synchronization service provides a method of synchronizing data sets to new or changed management class assignment rules. Control cards for the IDCAMS ALTER command can be generated to change the management class of a data set.

Usage Notes

The MAINVIEW SRM subsystem must be executing to run the management class synchronization service.

All data sets selected are processed by the SMS management class ACS exit and the MAINVIEW SRM SMSACSMC function. If the management class that is returned by the exit/function differs from the management class that the data set already has, then control cards are generated; if the returned management class is the same as the one the data set already has, then control cards are not produced.

Note that even though the data set has been reprocessed by the ACS exit and MAINVIEW SRM SMSACSMC function, its management class *is not changed* by the synchronization service. If a change is desired, the generated control cards may be set up to alter the management class.

The MAINVIEW SRM SMSACSMC function can be running in any filter list mode (active, simulated, or inactive) - that is, regardless of the mode specified in the filter list, the function still processes the data sets specified in the reporting INC statements. (However, if the function is deactivated in the SMFUNCxx member by ACTIVE=NO, it does not process any data sets.)

The SMSMANAGED parameter of the SMSACSTE function has no affect on the report.

Warning! Many of the MAINVIEW SRM selection parameters are not available to the SMSACSxx functions filter and rule lists during the synchronization service. For example, job execution-time parameters, such as job name and DD name, are valid for the report job only and thus are not really applicable to any SMSACSxx filters or rules that may reference such parameters. The selection parameters that are available to the SMSACSxx filter and rule lists are:

- CAT—Catalog name
- DSN—Data set name
- DSNn—Data set name qualifier 1-8
- HLQ—Data set name high-level qualifier
- LLQ—Data set name low-level qualifier
- NQUAL—Number of qualifiers in data set name
- DSORG—Data set organization
- SIZE—Data set size

Filter and rule list entries which select on other parameters (for example, SYSID or DSTYPE) *will not be considered for matching*. See “Filter and Rule Lists” on page 4-13.

Example

The following data sets are assigned management classes as noted:

Data Set Name	Management Class
GLYTD.DIV90.TRANS.ACT	HOLD15
GLYTD.DIV90.TRANS.MSTR	HOLD30

The SMSACSMC rule list has been changed to assign new management classes to both these data sets.

The following MCS specification:

```
EXCLUDE MIGRATED DS = YES
REPORT TYPE=MCS
INCLUDE DSN=GLYTD.DIV90./
GENERATE CARDS DD=CARDOUT
ALTER &DSN -
    MANAGEMENTCLASS ( &MCNAME )
```

will generate the following cards:

```
ALTER GLYTD.DIV90.TRANS.ACT -
    MANAGEMENTCLASS (HOLD90)
ALTER GLYTD.DIV90.TRANS.MSTR -
    MANAGEMENTCLASS (HOLD180)
```

Storage Class Synchronization Service

The storage class synchronization service identifies data sets whose existing storage class is different from the storage class that would be assigned by the current ACS routines or SMSACS_{xx} rule lists.

Organization

The storage class synchronization service produces no report. The control card generation facility is used with the service to build control cards to change the storage class of the selected data sets.

Utility

The storage class synchronization service provides a method of synchronizing data sets to new or changed storage class assignment rules. Control cards for the IDCAMS ALTER command can be generated to change the storage class of a data set.

Usage Notes

The MAINVIEW SRM subsystem must be executing to run the storage class synchronization service.

All data sets selected are processed by the SMS storage class ACS exit and the MAINVIEW SRM SMSACSSC function. If the storage class that is returned by the exit/function differs from the storage class that the data set already has, then control cards are generated; if the returned storage class is the same as the one the data set already has, then control cards are not produced.

Note that even though the data set has been reprocessed by the ACS exit and MAINVIEW SRM SMSACSSC function, its storage class *is not changed* by the synchronization service. If a change is desired, the generated control cards may be set up to alter the storage class.

The MAINVIEW SRM SMSACSSC function can be running in any filter list mode (active, simulated, or inactive) - that is, regardless of the mode specified in the filter list, the function still processes the data sets specified in the reporting INC statements. (However, if the function is deactivated in the SMFUNCxx member by ACTIVE=NO, it does not process any data sets.) The SMSMANAGED parameter of the SMSACSTE function has no affect on the report

Tip: Many of the MAINVIEW SRM selection parameters are not available to the SMSACSxx functions filter and rule lists during the synchronization service. Refer to the discussion in the Management Class Synchronization Service for more details.

Example

During the implementation period, the AP master data sets have been assigned the STANDARD storage class. It is desired now to put the system on a production footing. The SMSACSSC rule list has been modified to assign production storage classes to AP data sets.

The following SCS specification:

```
EXCLUDE MIGRATED DS = YES
REPORT TYPE=SCS
INCLUDE DSN=AP*.MSTR*./
GENERATE CARDS DD=CARDOUT
ALTER &DSN -
      STORAGECLASS ( &SCNAME )
```

will generate the following cards:

```
ALTER AP00M5.MSTRDLY.UPDTRN -  
    STORAGECLASS ( DBCRIT )  
ALTER APYTD.MSTRANNL.VNDRS -  
    STORAGECLASS ( FASTREAD )
```

Storage Group Synchronization Service

The storage group synchronization service identifies data sets whose existing storage group is different from the storage group that would be assigned by the current ACS routines or SMSACS_{xx} rule lists.

Organization

The storage group synchronization service produces no report. The control card generation facility is used with the service to build control cards to change the storage group of the selected data sets.

Utility

The storage group synchronization service provides a method of synchronizing data sets to new or changed storage group assignment rules. Control cards for DFHSM migration and recall can be generated to cause the data set to be moved from one storage group to another.

Usage Notes

The MAINVIEW SRM subsystem must be executing to run the storage group synchronization service.

All data sets selected are processed by the SMS storage group ACS exit and the MAINVIEW SRM SMSACSSG function. If the storage group that is returned by the exit/function differs from the storage group that the data set already has, then control cards are generated; if the returned storage group is the same as the one the data set already has, then control cards are not produced.

Note that even though the data set has been reprocessed by the ACS exit and MAINVIEW SRM SMSACSSG function, its storage group *is not changed* by the synchronization service. If a change is desired, the generated control cards may be set up to alter the storage group.

The MAINVIEW SRM SMSACSSG function can be running in any filter list mode (active, simulated, or inactive) - that is, regardless of the mode specified in the filter list, the function still processes the data sets specified in the reporting INC statements. (However, if the function is deactivated in the SMFUNCxx member by ACTIVE=NO, it does not process any data sets.) The SMSMANAGED parameter of the SMSACSTE function has no affect on the report.

Tip: Many of the MAINVIEW SRM selection parameters are not available to the SMSACSxx functions filter and rule lists during the synchronization service. Refer to the discussion in the Management Class Synchronization Service for more details.

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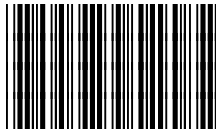
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Notes



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